VOLUME XLVI NUMBER FOUR

THE NATIONAL GEOGRAPHIC MAGAZINE

OCTOBER, 1924

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PUBLISHED BY THE
NATIONAL GEOGRAPHIC SOCIETY
HUBBARD MEMORIAL HALL
WASHINGTON, D.C.

$3.50 A YEAR 50¢ THE COPY

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ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resultant given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society is conducting extensive explorations and excavations in northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings and whose customs, ceremonies, and name have been engulfed in an oblivion.

THE Society also is maintaining expeditions in the unknown area adjacent to the San Juan River in southeastern Utah, and in Yunnan, Kweichow, and Kansu, China—all regions virgin to scientific study.

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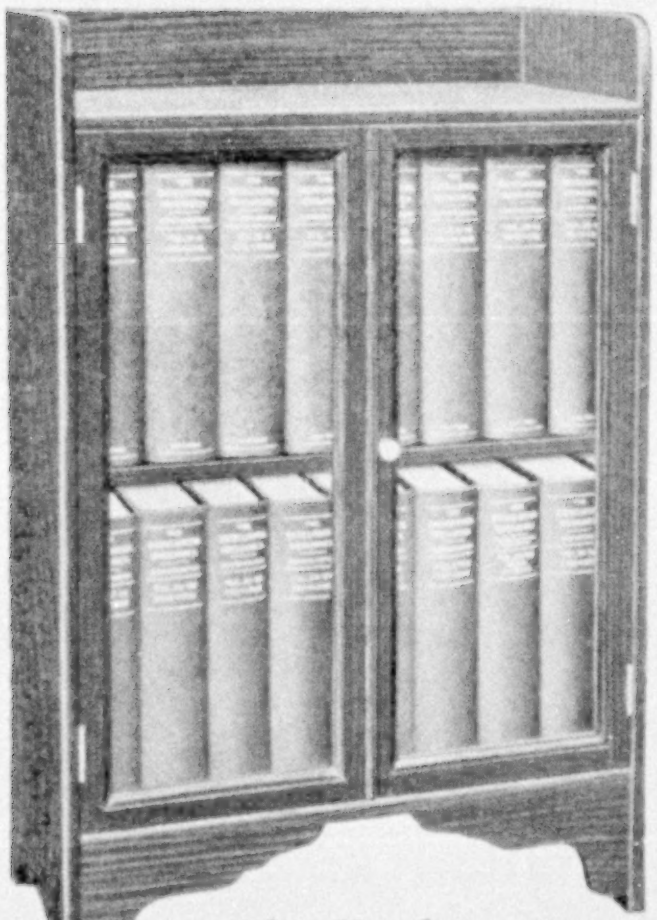

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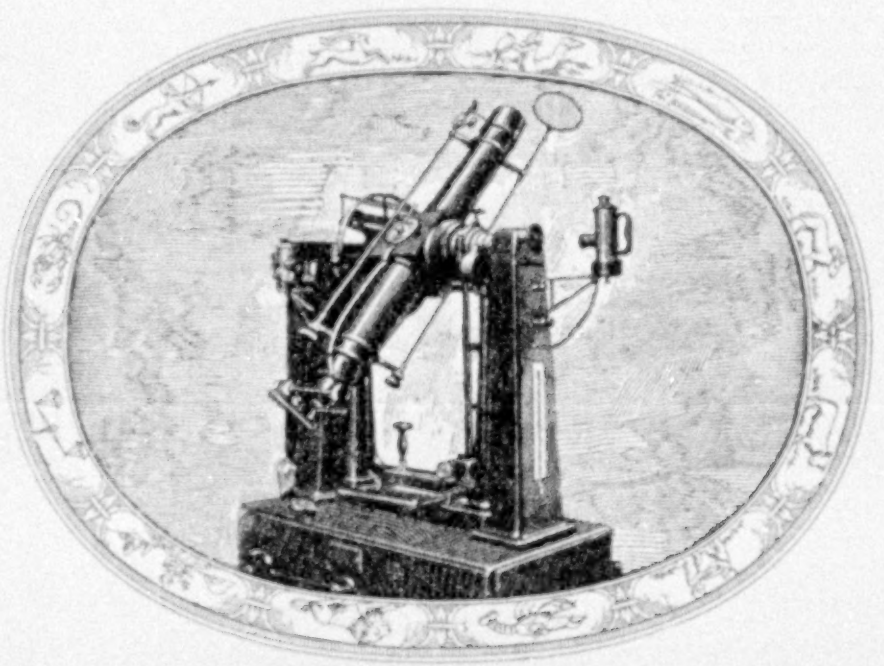

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and how Elgin uses it to make watches better

A FEW centuries ago men thought that their destinies were controlled by the stars. That events to come could be predicted by the stars.

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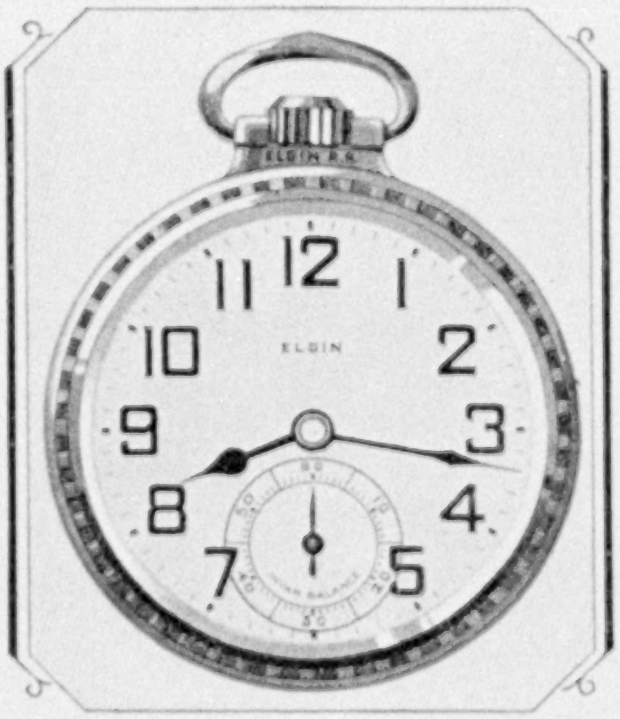

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SCENE: Her first at-home! Friends come in, all abubble with curiosity. Conversation flies. Time, too. . . . She rings for the maid. The latter, escorting a tea-wagon, appears in the doorway. A hush! Suddenly, she experiences a tumultuous feeling; she is now on trial as a young matron, entertaining in her own home. Questions unspoken are evident on every face. "What kind of silver has she?" "Is it sterling?" "Does it match?" "Is it the right design?"

Fortunate, the bride of this year! For now is available a design which expresses exquisiteness with most delightful feminine accents.

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In outline, the Wedgwood is a simple, flowing line. In surface, it is an intricate, delicate pattern-work.

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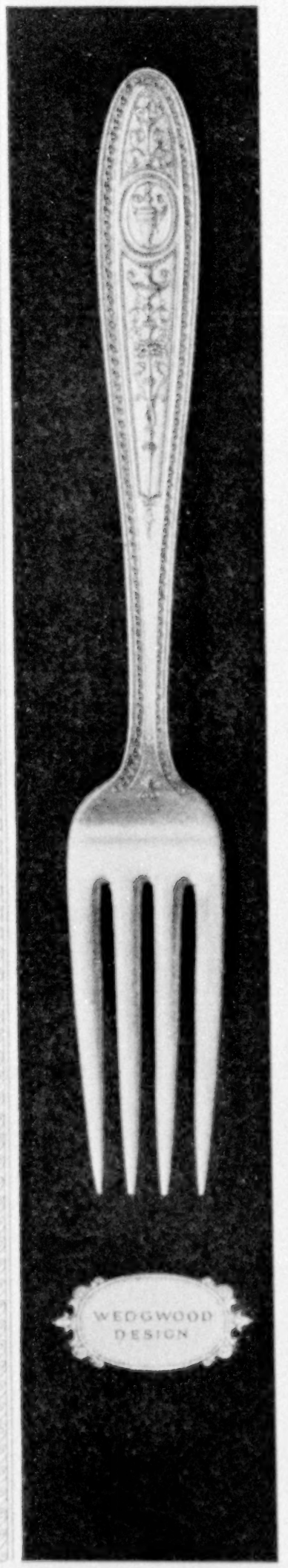
Yet, this delicacy is imperishable. It is wrought from solid silver.

Never before has there been a design with the filigree effect. Never before, a design which so happily expressed the personality of an exquisite woman.

The Wedgwood Design has been carried out in a complete table service. One should see the actual pieces.

In each territory, some good jeweler shows them. Write for his name, also for the Book of the Wedgwood Service. Address Dept. 5-85, International Silver Co., Meriden, Conn.



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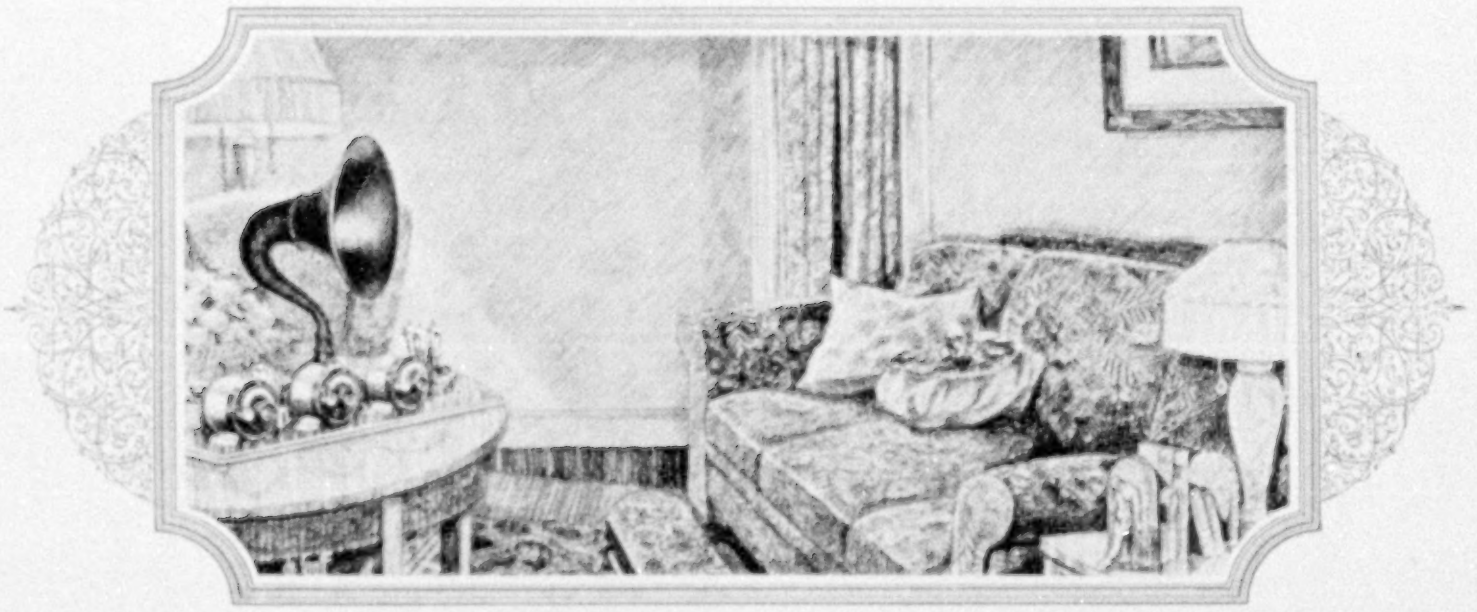

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—a simple statement often made by proud owners with the assurance that elaboration is not necessary—

They know that their radio equipment is distinctive—Precision is its dominant characteristic—That it is made for those who demand not only quality and unusual performance in radio reception, but distinction as well.

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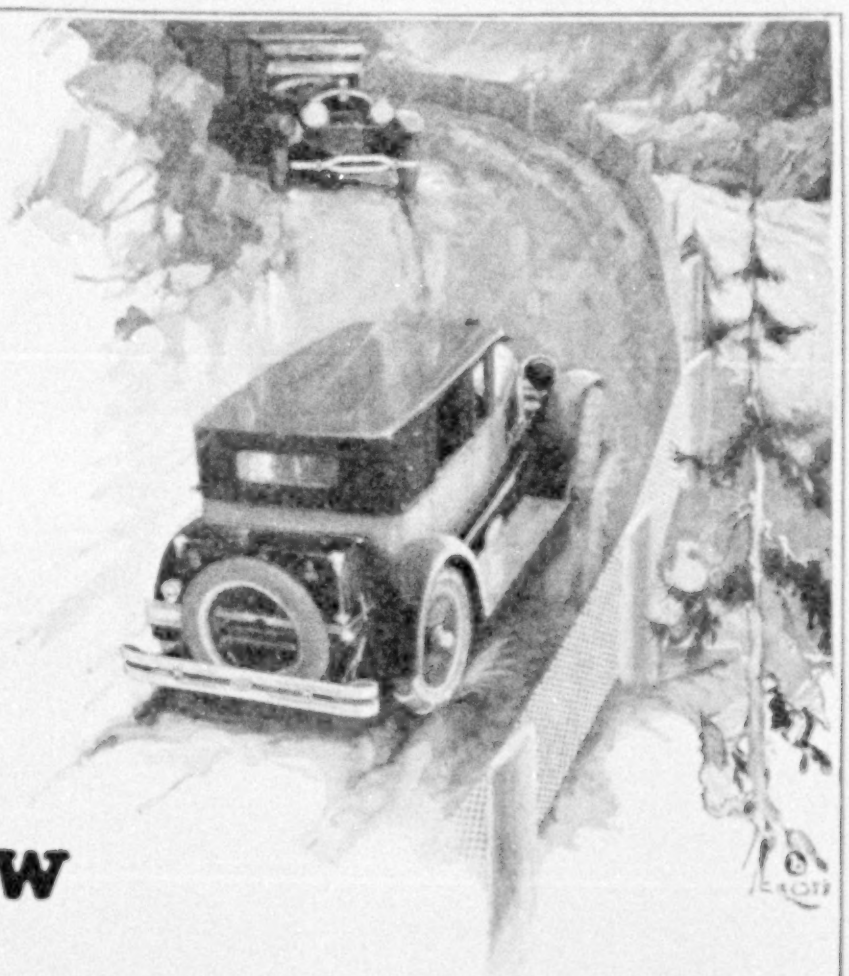
THINK OF WHAT IS BACK OF IT



When you hope that the other fellow *uses*

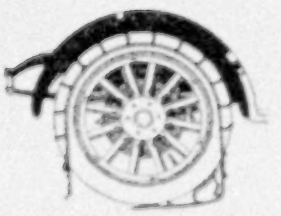
WEED CHAINS

With rain pattering down on the car roof — a narrow road, wet, slippery and treacherous, uncertain traction, a steep grade behind you, a dangerous curve ahead and a car just coming around the turn — then you hope the other fellow has good sense too—that he is safeguarding his own life and yours by using WEED CHAINS.

Skidding is one of the greatest dangers in motoring. WEED CHAINS prevent skidding. Don't take a chance—put them on "at the first drop of rain".

Anyone can attach WEED CHAINS quickly by following instructions given below. No jack required.

Every hook on genuine WEED CHAINS is stamped with the name WEED. Made in all sizes to fit all types of tires—including "Balloons" of course.



Lay chain over wheel with hooks toward rear, and tuck slack under front part of wheel.

Start car forward just enough to run over slack ends.

Hook chains as tightly as possible by hand.
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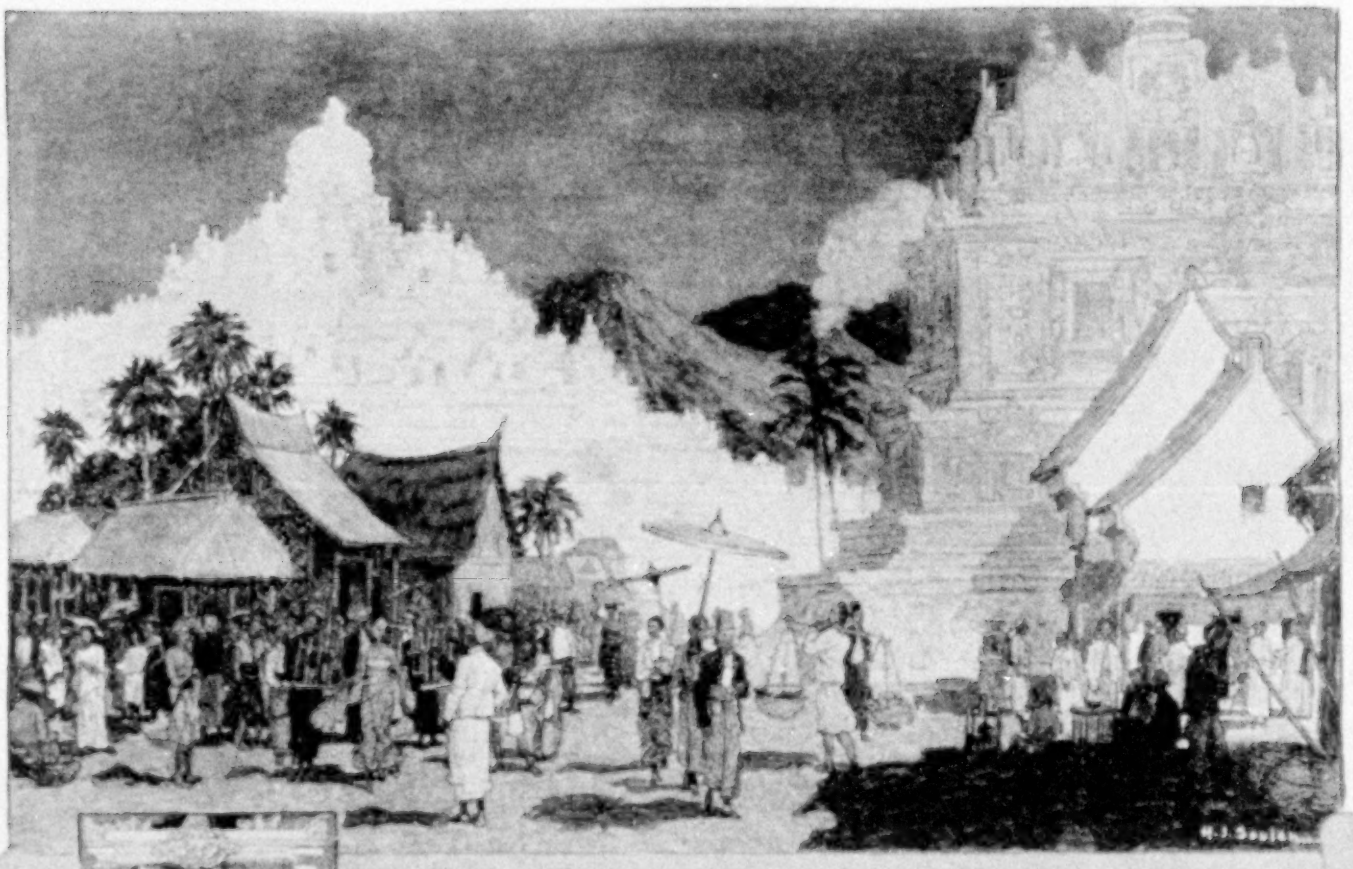

TO THE GATEWAY PORTS OF THE WORLD

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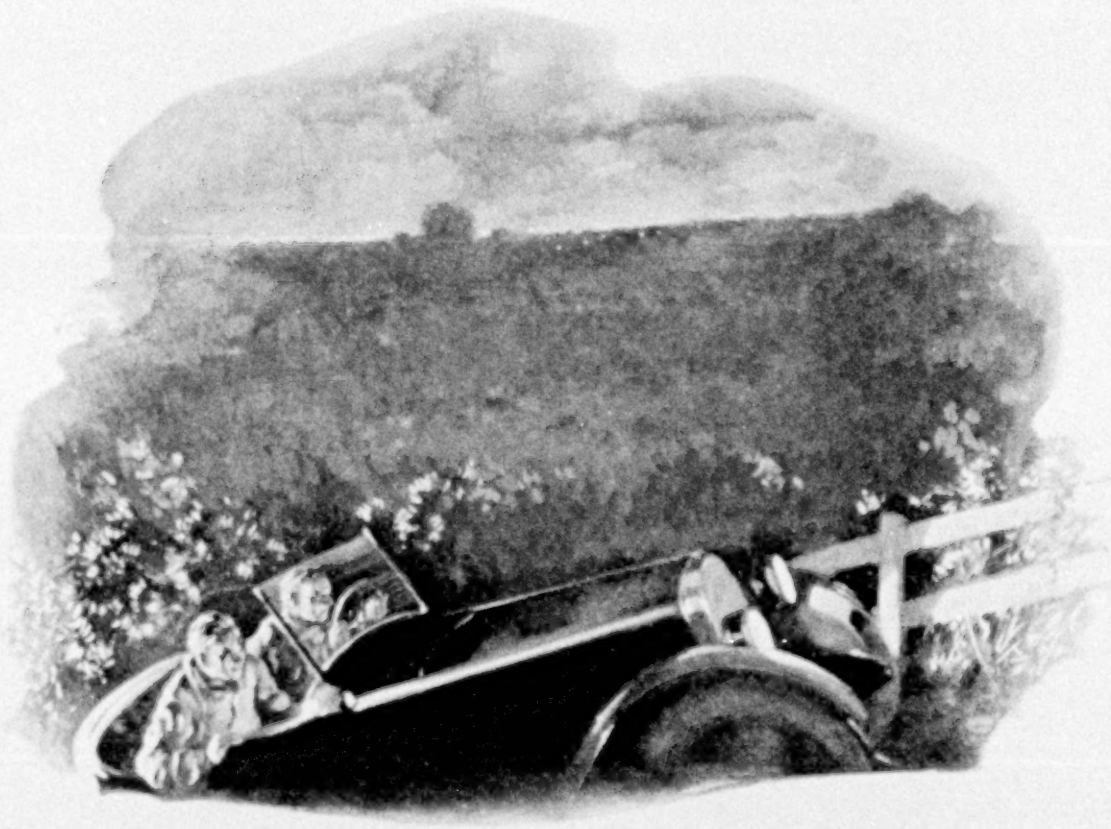

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$1,000 in cash prizes for new G. Washington's Coffee recipes. First prize is $500. No restrictions, no conditions.

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For the next best	250
For the next best	75
For the next best	50
For the next best	25
For the 20 next best, $5 each	100
Twenty-five prizes in all	$1,000

Contest Closes Dec. 31, 1924

All prizes will be paid on or before February 1st, 1925, and in event of tie for any prize offered, the full amount of such prize will be awarded to tying contestants.
The judges of the contest will be chosen from a selected list of managers and famous chefs of the leading hotels of New York City.

Write recipe on one side of paper only. No letters can be answered concerning the contest. All recipes must be mailed on or before December 31, 1924, and to become our property.

Use the coupon below, or a copy of it, attaching your suggestions for new recipes.

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Enclosed find recipes for using G. Washington's Coffee.

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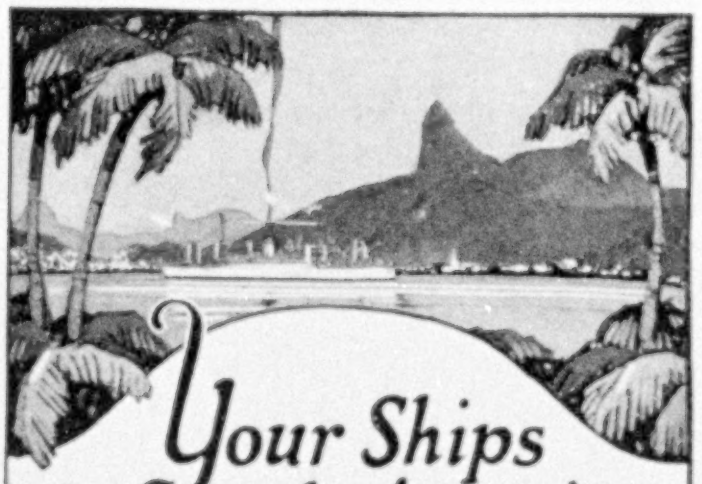

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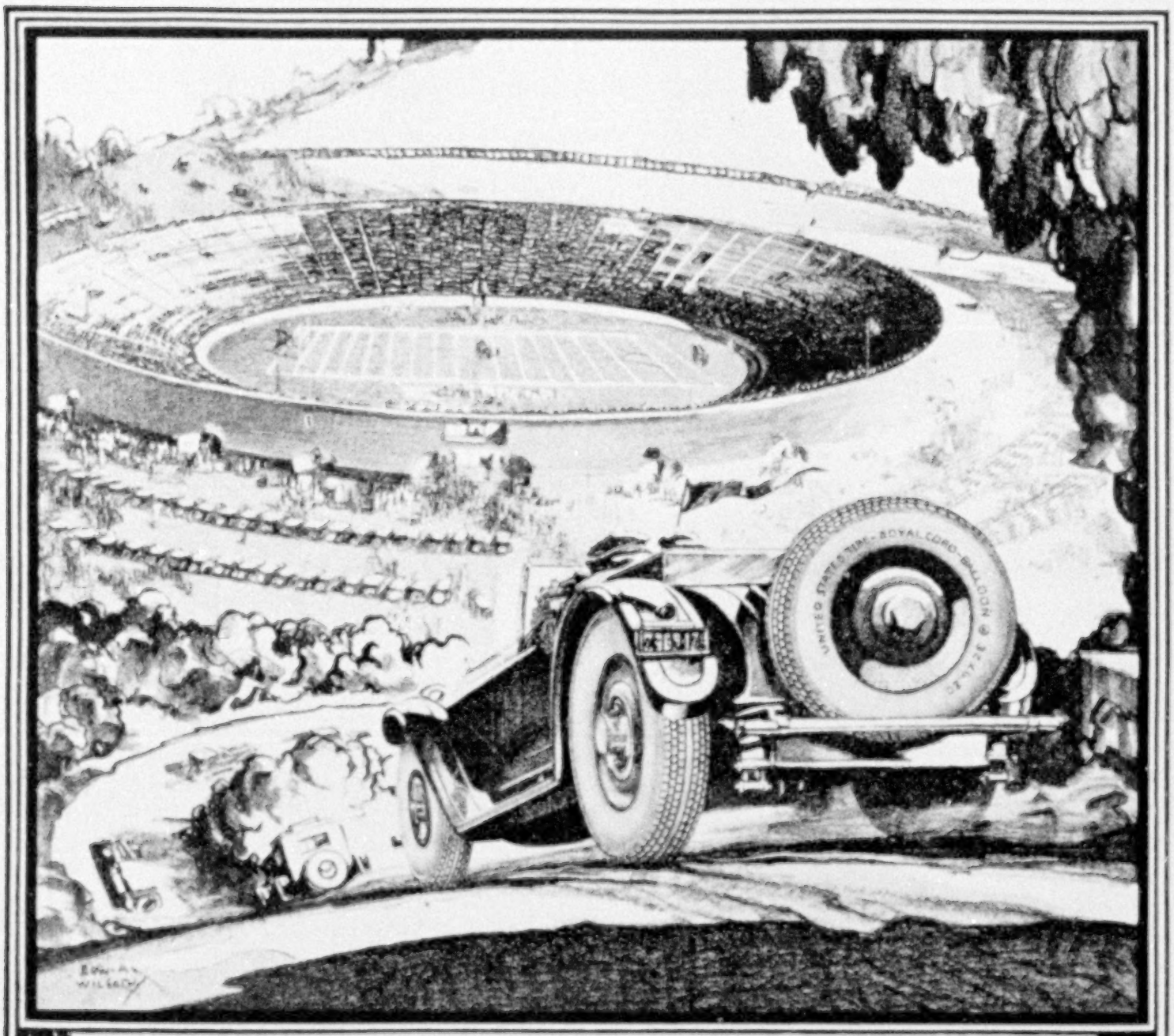

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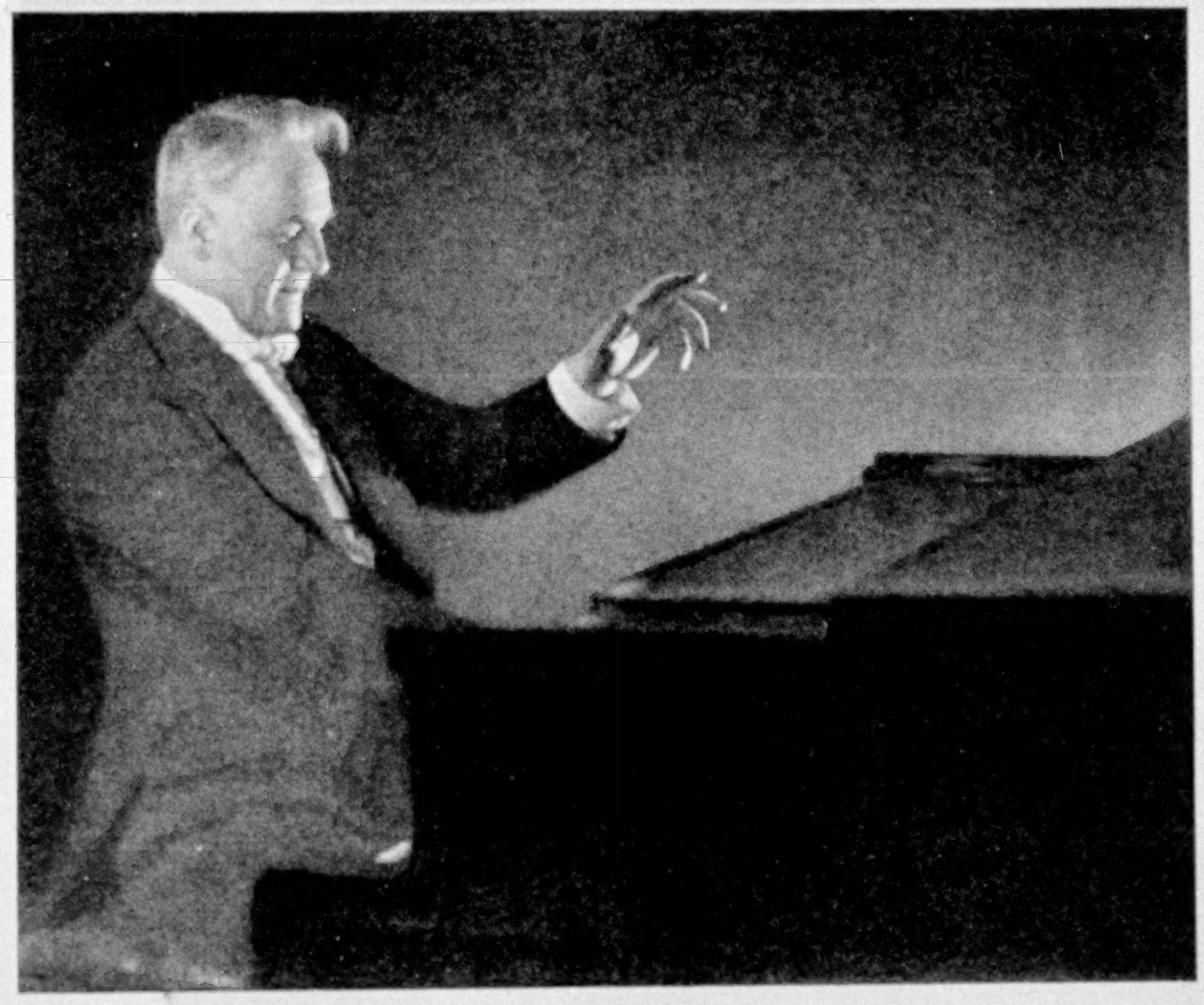

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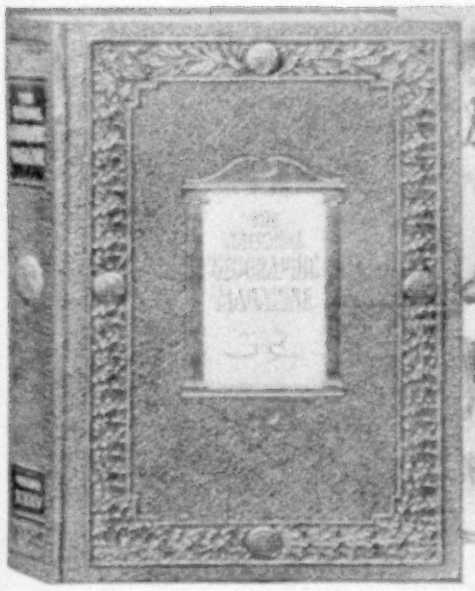

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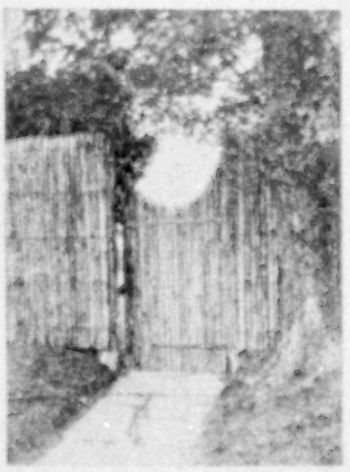

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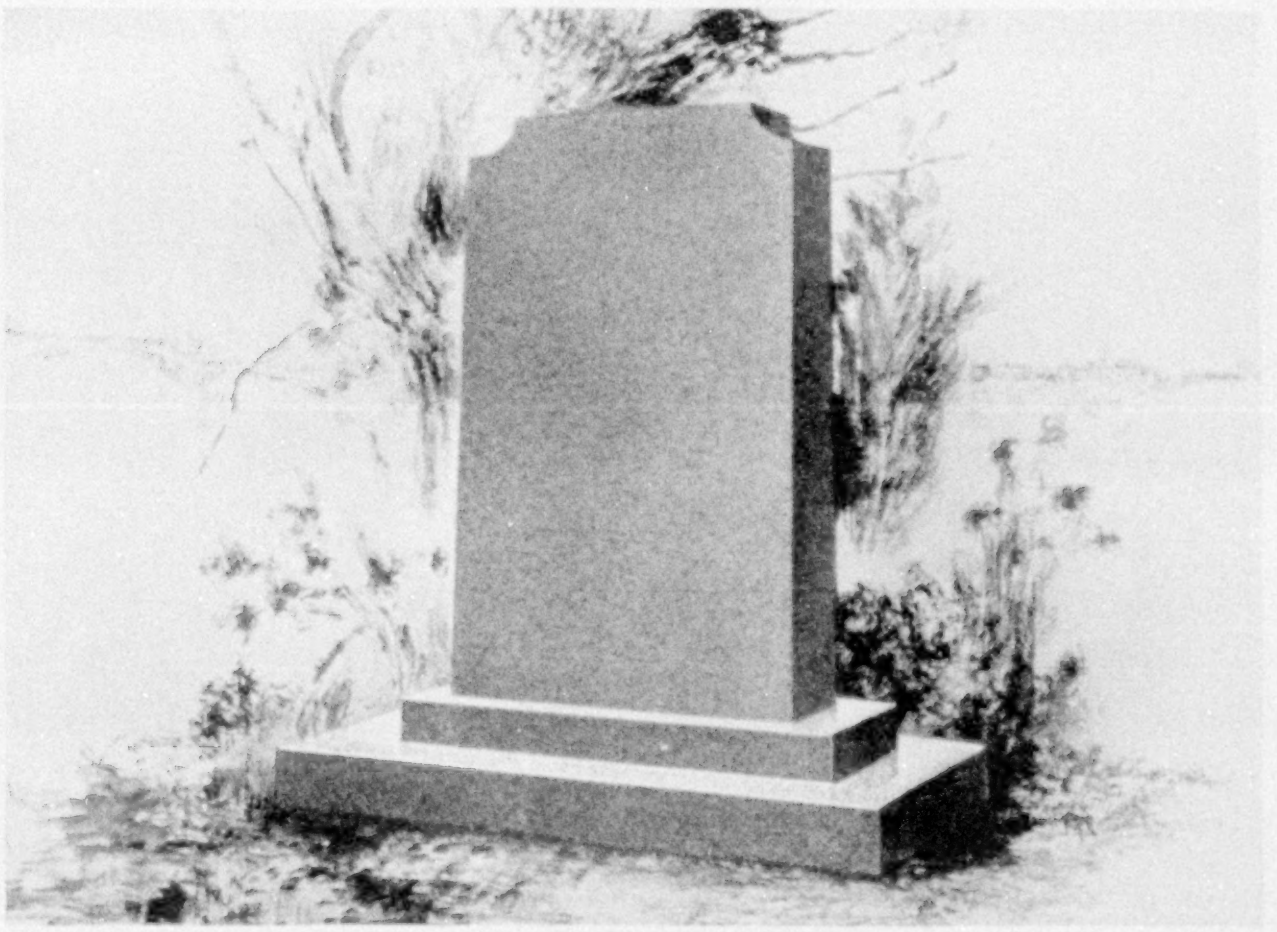

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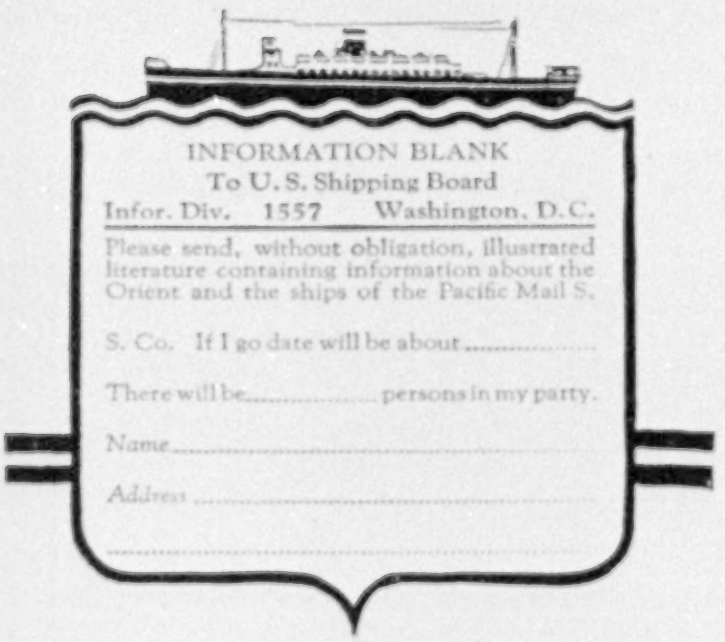

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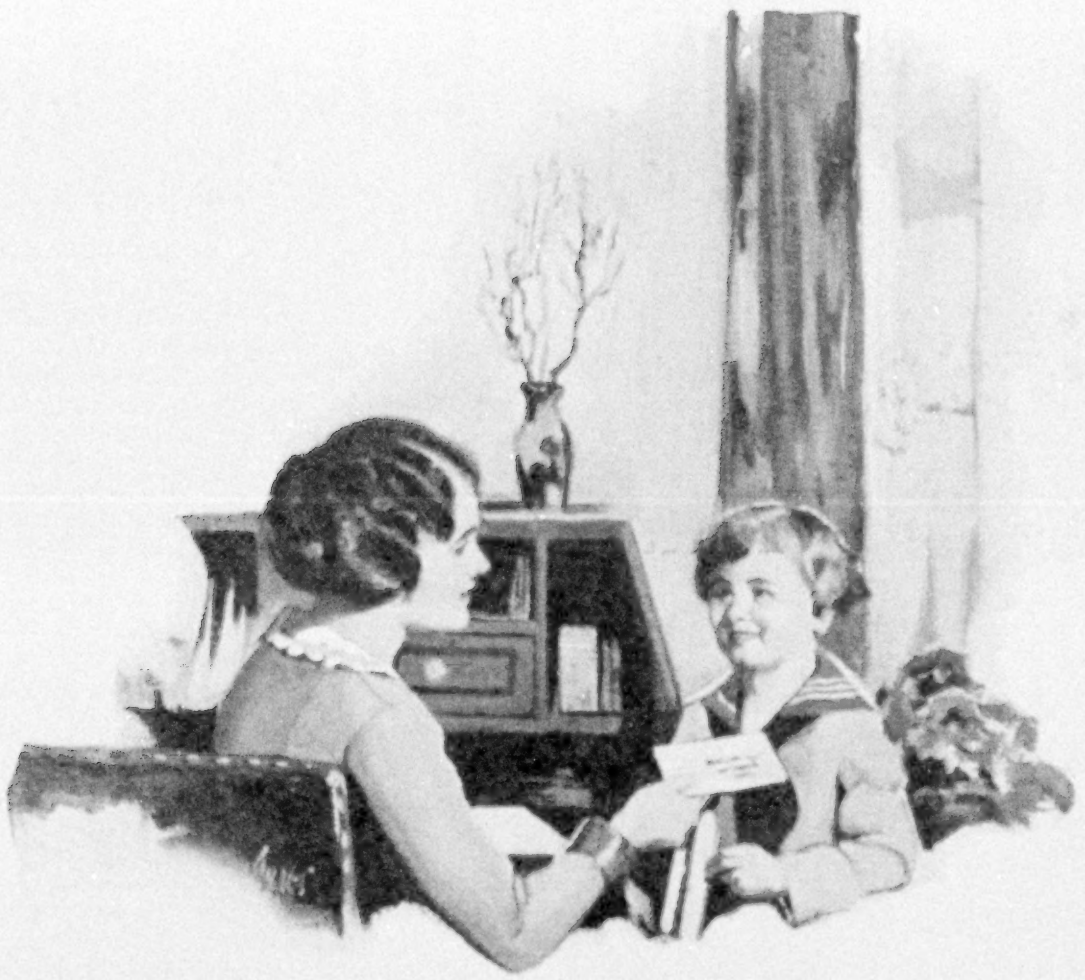

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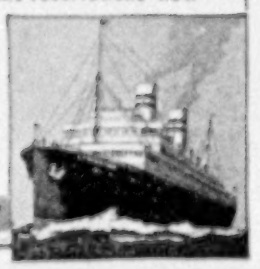

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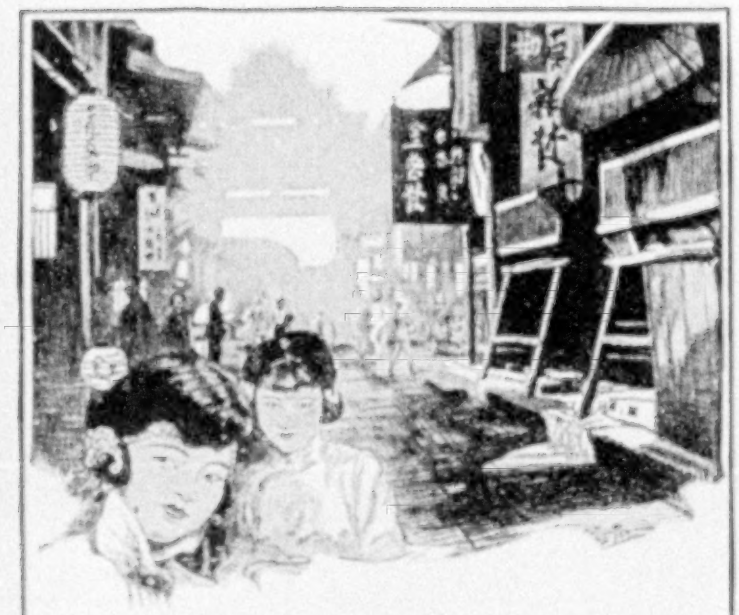

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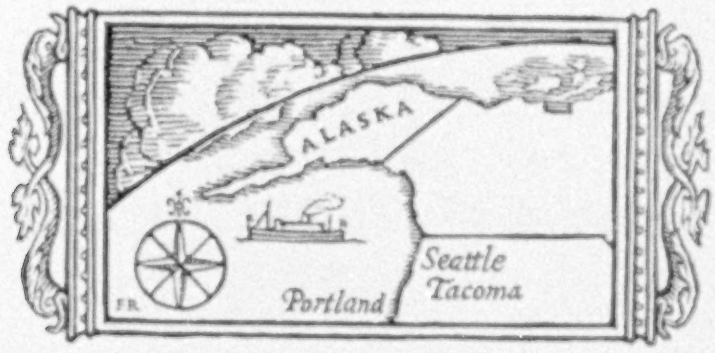

THE PATH OF ALASKA'S BILLION

"Everything," says a resident of many years, "is true about Alaska." True or untrue, depending upon of which part of Alaska you happen to be speaking.

Notably true are the words of Roosevelt in 1902: "No country has a more valuable possession in mineral wealth, in fisheries, furs and forests."

Notably *untrue* is the prevailing impression that Alaska is a desolate land of ice and snow.

Identical in latitude with the prosperous nations of Norway and Sweden, Alaska has a hundred thousand square miles suitable to a high type of agriculture.

It contains 20 million acres of merchantable timber.

Its resources in gold and other metals cannot be estimated.

Its coal resources are put by the United States Geological Survey at a minimum of 150 billion tons.

Oil of high quality has been discovered at widely separated points—what this discovery will bring forth, no one yet knows.

Alaska's fisheries produce from 40 to 50 million dollars a year.

Its first important railroad has just been completed. The development of Alaska's tremendous resources has just begun!

Yet, already, Alaska carries on a trade with the United States amounting to 80 million dollars a year.

Already, Alaska's exports come to a total of over a billion dollars!

Quite naturally, most of this billion has gone into the United States.

Quite naturally, too, its largest part has gone into the United States by way of the Pacific Northwest ports!

For the Pacific Northwest ports are the very door to Alaska. And Alaska's growing commerce constitutes an important factor in their own growth.

Alaska's billion is a bare beginning. Alaska has many billions more to ship in raw materials alone. It will require billions in return.

But Alaska's billion has definitely marked the path which the billions that follow it will take—through the ports of Washington and Oregon.

Three great developments converge in the Pacific Northwest—that of increasing trade with the Orient, where three-quarters of the world's people are awakening to a recognition of new wants—that of the Pacific Northwest itself, the region offering today the greatest possibility of growth and development of any in the United States—and that of Alaska.

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Cut out a map of Alaska with the Aleutian Islands, and place it over a map of the United States drawn to the same scale. It will cover one-fifth of the larger map. It will reach the Canadian border at Minnesota, the Mexican border at Texas, the Atlantic Ocean at South Carolina, and the Pacific at California!

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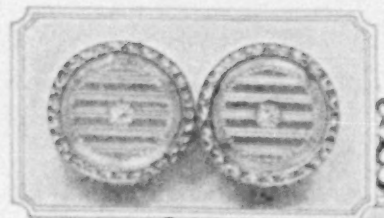

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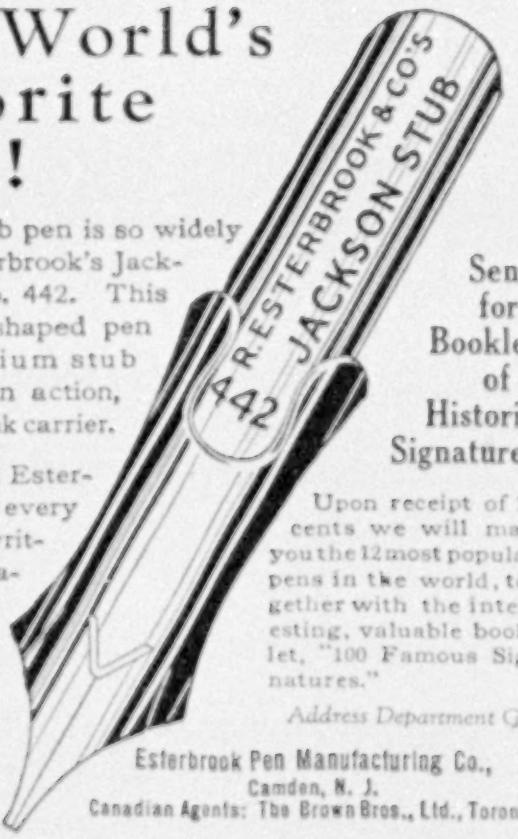

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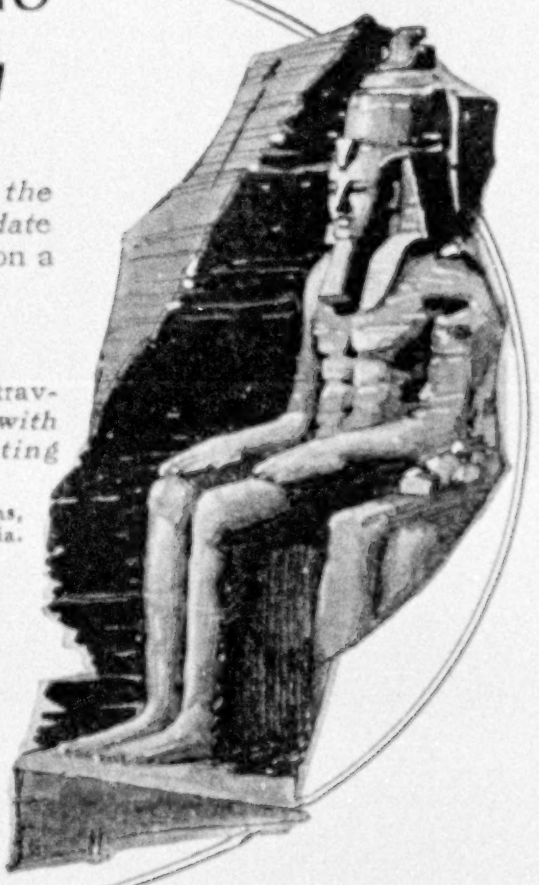

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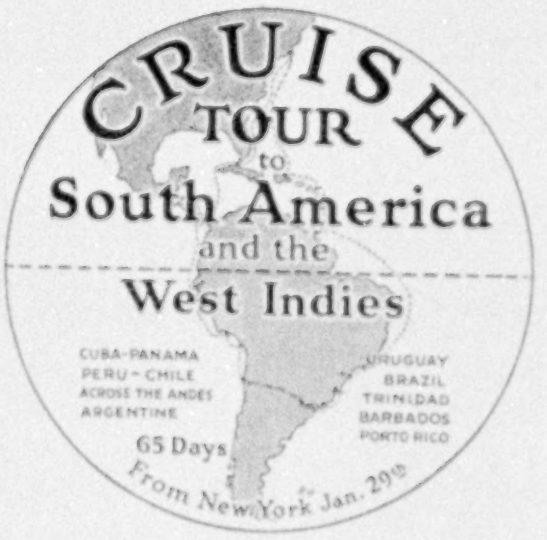

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Physical health depends to a great extent upon mental health. Excessive anger, hatred, envy, jealousy, fear, revolt, malice—a hundred and one mental conflicts if persisted in—often cause serious mental and physical trouble. With continuing wrong thoughts and emotions we can't be well. That is one of the first things that Mental Hygiene teaches. Its underlying idea is as old as Time. The only new thing about it is that it has now been developed into a science that can be used to prevent mind-sickness and to solve individual mental problems.

Frequently people who are ill take remedy after remedy, travel north, south, east or west—all to no avail. Why? Because the *source* of the trouble—wrong thinking, false beliefs, distorted imagination, misdirected emotion—never has been touched. Such illnesses are not physical diseases although they may be accompanied by physical pain and may be manifested by sleeplessness, nervousness, indigestion and many other physical symptoms.

If you were physically ill—if anyone in your family were threatened with diphtheria or scarlet fever—you would do something about it. Mental sickness is quite as real and likewise should have prompt attention.

There are men and women—graduate physicians—trained especially to treat troubles of the mind and to teach Mental Hygiene. Their work is known as psychiatry and all over the country wise and successful physicians are practicing it.

Dr. William J. Mayo, of the Mayo Clinic, Rochester, Minn., says that mental ailments are the cause of more misery than tuberculosis or cancer.

If you are feeling ill and find no physical reason for your discomfort, your doctor may discover that the real trouble is with your mind. This may be true, also, of those who have difficulty in maintaining a happy personal relationship with family, friends or business associates. Chronic worriers and pessimists show evidence of unhealthy mental operations.

Frequently it is possible to straighten out your own mental difficulties. Sometimes talking them over with some wise man or woman who is by nature a mental hygienist will help to solve the problem. If you have a serious trouble do not keep it bottled up. Repression often is harmful.

Associate with happy, normal people. Exercise and have all the fun you can. Don't devote every minute to work. Take time for recreation—*re*-creation.

For centuries religion, philosophy and inspirational writings have helped men and women to gain poise and mental control—to know themselves. Healthy-minded people who have learned how to plan and direct their lives harmoniously are consciously or unconsciously employing mental hygiene.

Mental Hygiene is needed to help millions of people to think right, act right and feel right.

The time has come when Mental Hygiene—the science of mental health—should take its place with other major activities in the great field of preventive medicine. As the work of prevention progresses, much of the mental suffering, mental deficiency, criminality and insanity in the world will be reduced.

The cost of caring for the patients in mental hospitals alone is nearly $75,000,000 a year. The economic loss, because of their disability, is more than $200,000,000 annually. In several states, one out of twenty of all people who die in adult life dies in a hospital for the insane.

The number of beds in public hospitals for the insane in this country equals those occupied by all other sick persons combined.

In 26 states in the Union, in Canada and in many European countries Mental Hygiene Societies have been formed to help those who are mentally troubled. It will be worth your while to get in touch with them. The Metropolitan Life Insurance Company will gladly tell you where they are located and will mail you a list of books relating to Mental Hygiene if you will ask for it.

HALEY FISKE, President.

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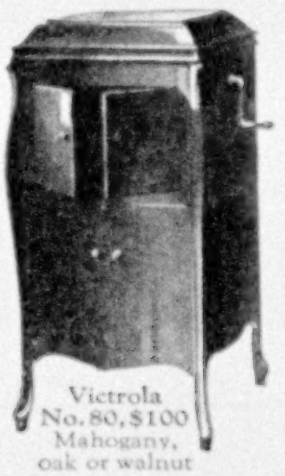

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VOL. XLVI, No. 4 WASHINGTON OCTOBER, 1924

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IN THE DIAMOND MOUNTAINS

Adventures Among the Buddhist Monasteries of Eastern Korea

BY THE MARQUESS CURZON OF KEDLESTON

Where every prospect pleases
And only man is vile.—BISHOP HEBER.

IN THE course of my travels I have come across a good many monks and monkish communities and have spent nights of interest, though hardly of luxury and not always of repose, in monastic guest chambers or cells.

I have walked in pilgrimage round the pyramidal spires of Monserrat;* have been hauled up in a net to the eyries of Meteora;† have dined with the abbot of the great monastery of Troitsa, near Moscow; have fraternized with the dwindling Greek fraternities of Athos‡ and with the more prosperous Russians on Tabor; have sojourned in the grim monastery of Mar Sâba, near the Dead Sea; was once rescued with difficulty, and only by the tact and *savoir-faire* of my companion, Sir John Jordan, from the menacing approaches of the Lamas in the great Tibetan monastery at Peking; have addressed an audience of 2,000 yellow-robed Burmese monks at Mandalay, and have slept at night on the polished temple floors of the monasteries of Korea (Chosen).

I shrink, even after this rather diversified experience, from generalizing about monks, since I have found them divided, like other classes of mankind, between saints and profligates, bons vivants and ascetics, gentlemen and vagabonds, men of education and illiterate boors.

JOURNEYS WITH AMBASSADOR SPRING-RICE

But of all my monastic adventures I think that the ones which linger longest in my memory are the days that I spent with my friend, the late Cecil Spring-Rice, afterwards British ambassador at Washington, in wandering among the monasteries of eastern Korea.

And the reasons for my preference are these:

First, the scenery amid which these monastic retreats are hidden is among the most enchanting in the East. Indeed, it may fairly be described as one of the little known beauty spots of the world.

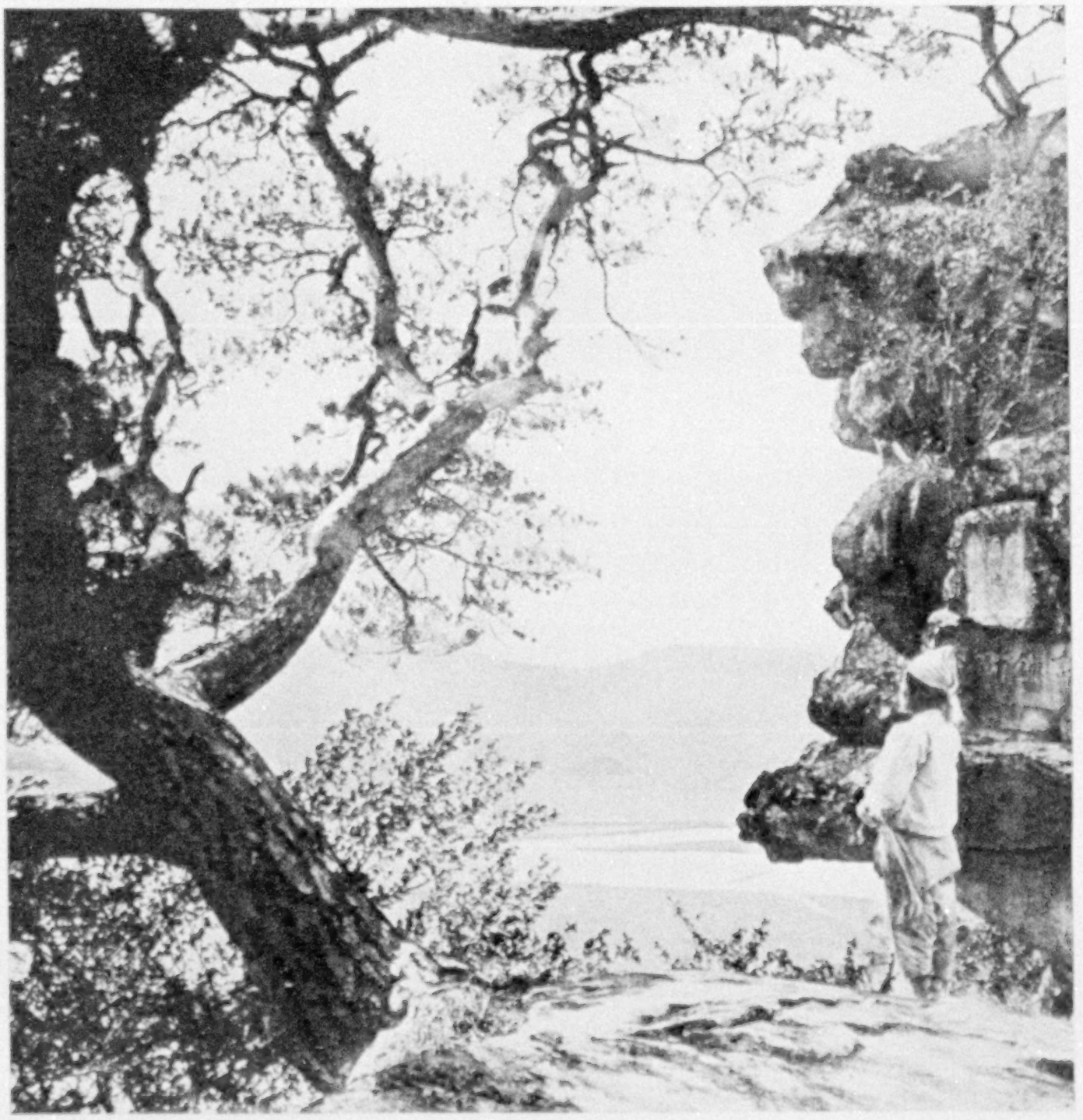
Secondly, there was not the faintest masquerade of piety among the great majority of these rather seedy scamps, some of whom were quondam criminals of the deepest dye; and this invested them with an originality which, if not admirable, was at least piquant.

And, thirdly, I had the supreme satisfaction of arresting an abbot and carrying him off, a captive of my bow and spear.

* See, also, "Romantic Spain," by Charles Upson Clark, in the NATIONAL GEOGRAPHIC MAGAZINE for March, 1910.

† See, also, "With the Monks at Meteora," by Elizabeth Perkins, in the NATIONAL GEOGRAPHIC MAGAZINE for September, 1909.

‡ See, also, "The Hoary Monasteries of Mount Athos," by H. G. Dwight, in the NATIONAL GEOGRAPHIC MAGAZINE for September, 1916.



A KOREAN LANDSCAPE

"No other people on earth is so passionately addicted to sight-seeing and pleasure-seeking or so sensitive to the charm of a landscape as the Korean. They will travel miles on foot to climb a pass or see a view, celebrating their arrival on the crest by a mild jollification and by the deposit of a stone or the suspension of a rag in the little wayside shrine" (see text, page 369).

Doubtless other European travelers after my day have threaded the picturesque gorges of the Diamond Mountains; and, for all I know, since the vacuum-cleaner of Japanese rule has sucked out the dust and dirt from the crannies and corners of the dilapidated old Korean tenement, the monasteries may by now have been expurgated and the monks made respectable, and a road for motor cars driven to the threshold of the Keumkang San. But as I was one of the earliest Europeans to visit those exquisite retreats, now 32 years ago (October, 1892), it may be worth while to set down a few of my memories of the scene as it was in those unregenerate days of mingled rascality and romance.

In my book on Korea I described the incidents and features of travel as I saw them in that singularly backward and unsophisticated country—the little, sturdy, combative ponies; the garrulous, quarrelsome, lazy pony-men, or *mapus;* the in-

dolent, strong-limbed people; the picturesque variety of scenery, the perfect climate, the abundance of winged game, the torchlit marshes at night, the total absence of roads, the incredibly disgusting native inns.

TRAVELING TO THE CHIEF MONASTERY OF KOREA

It was amid such surroundings that my acquaintance with the Korean cloister was made. We were marching from Wensan or Gensan, a port on the eastern coast, to the capital, Seoul (Keijo), a distance of 170 miles; but we deviated from the familiar track (which a railway now nearly parallels) to visit the monasteries to the east of the road.

It was soon after passing Namsan, 15 miles from Wensan, that we left the plain and plunged into the interior of a wooded range, the crimson of whose autumnal maples and chestnuts burned like a dying flame against the sky.

Drawn by Charles E. Riddiford

A RELIEF MAP OF KOREA (CHOSEN) SHOWING SOME OF THE MONASTIC ESTABLISHMENTS IN THE DIAMOND MOUNTAINS

Our destination was the monastery of Syekwangsa, the chief or metropolitan monastic establishment in Korea, founded about 500 years ago, which I have not seen mentioned in the itinerary of other travelers (see page 357).

The bridle-path—for no road in Korea at that time was any more or better—followed the windings of a sylvan glen, down which brawled a mountain stream. On either side were rocks on whose chiseled surface centuries of pilgrims had inscribed their names in bold Chinese characters.

In turn we passed the cemetery of the monks, marked by lanternlike pillars of stone (p. 359), heavily eaved resthouses built for visitors, and a series of hideous painted wooden posts, each terminating in a grinning head, erectetd to ward off the assault of evil spirits * (pp. 362 and 363).

So we came, as the track broadened, to a hollowed amphitheater, which seemed to have been scooped out for the purpose in the hillside, where, on terrace above terrace, stood the monastic buildings.

A NIGHT WITH THE MONKS

It was near midnight when we arrived and presented our letters of introduction to the abbot. He showed us our quarters, and there we cooked and ate our meal, before the whole company of monks, in an atmosphere which might have been cut

* The theory is that all Nature is pervaded by spirits and genii, who require to be propitiated and, when malevolent, to be kept aloof.

Photograph by J. B. Millet

A GREAT BUDDHIST IMAGE IN A KOREAN TOWN

Buddhism swayed Korea from the tenth to the fourteenth century. Monasteries in the Diamond Mountains are said at one time to have numbered 108 and many royal personages visited them. Pilgrims from China and other countries traveled great distances to their altars (see text, page 367).

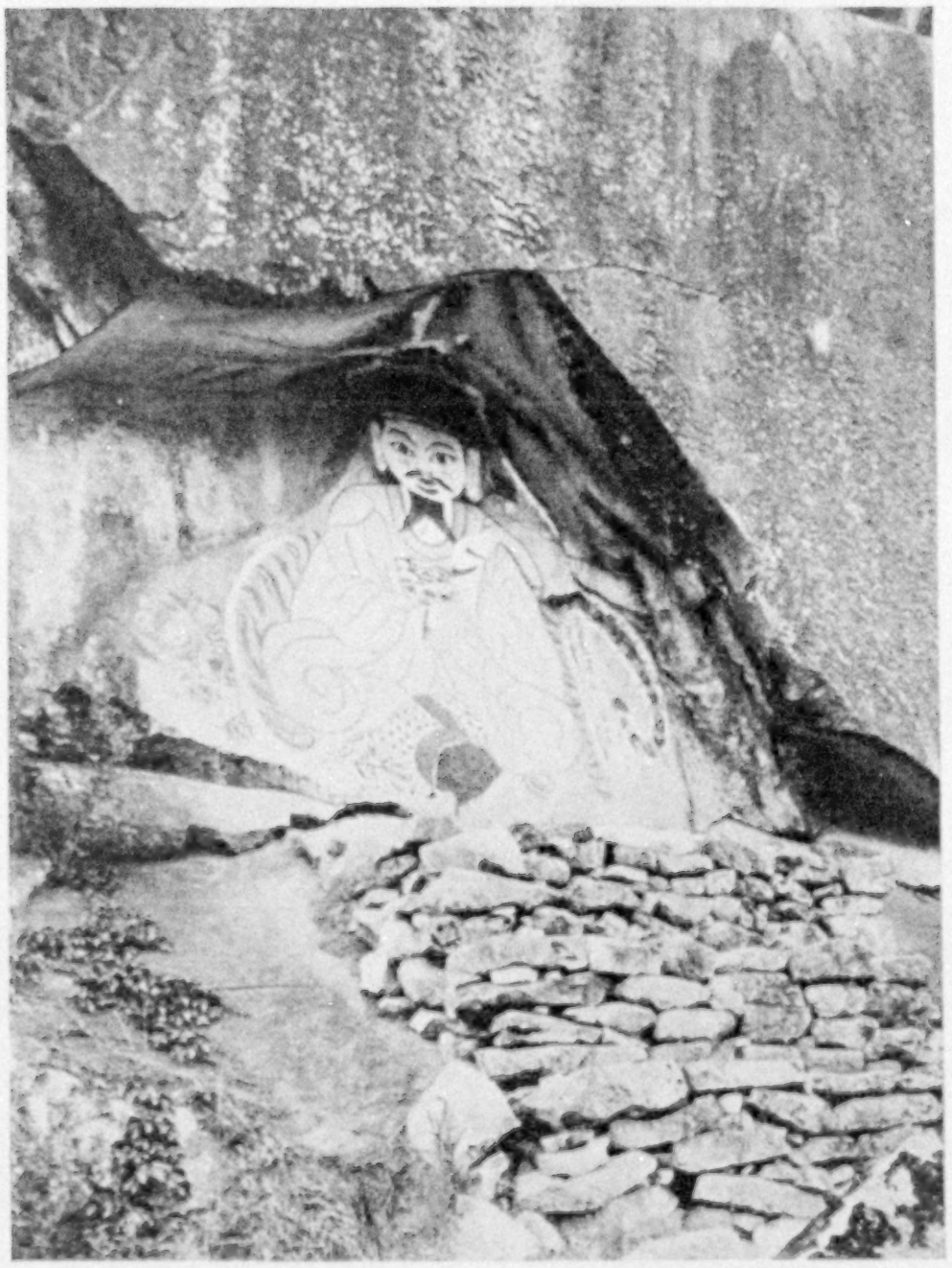
THE SYEKWANGSA MONASTERY (SEE PAGE 355)

This is the chief or metropolitan monastic establishment in Korea, founded some 500 years ago. It is known as a Zen temple, Zen being the name of a contemplative sect of Buddhists.

Photographs from the Marquess Curzon of Kedleston

THE CHONGANSA MONASTERY

The Temple of Eternal Rest is the most famous of the monasteries of the Diamond Mountains. For 400 years this once gorgeous place has been abandoned to the ravages of time.



Photograph from A. M. Mirzaoff

A BUDDHA CARVING IN A ROCK NICHE

with a knife, not getting to bed till two in the morning.

Our sleep was on a floor stretched with oiled paper, as smooth and shining as marble; in the middle stood an altar and a Buddha behind glass.

Daylight had not dawned before we were aroused by the peripatetic tramp of an early monk, tapping a drum and singing a lugubrious chant. Another began to clap-clap upon a brass gong. Presently the big drum on the platform over the entrance was beaten to a noisy tune, and finally all the bells and gongs in the establishment were set going at once.

We rose and dressed before an appreciative crowd, who took an overpowering interest in our equipment, and more particularly in our sponges and binoculars.

Then the worthy abbot, robed in a gray dress, wearing a black circular horsehair hat, and holding a staff in his hand, appeared to conduct us around. His tiny eyes twinkled with good-humored benevolence; a gray stubble sprouted from his unshaved cheeks and chin; his big lips poured forth a voluble flood in an unfamiliar tongue.

One temple at the side contained a hideous painted wooden Buddha. A cluster of buildings to the left of the entrance, terminating in a prayer platform that overhung the torrent, was said to be reserved for the King.

In the side courts of the inclosure, looking like a collection of little dolls with hoods, were the upper parts of the painted stone figures of 500 Lohans or Arhans—*i. e.*, disciples of Buddha who were supposed to have framed the Sacred Canon with him in India. These images had a grotesque leer upon their whitened faces.

THE ABBOT ASKS FOR A DOUBLE FEE

As we left, at 8:30 a. m., the good abbot accompanied us to the gateway, and when I offered him the paltry gratuity of one yen (50 cents) for the night's hospitality, which I thought very shabby, but had been enjoined at Wensan on no account to exceed, he looked at the coin with an air of pained reproach and murmured, "Couldn't you make it two?"

It was quite impossible to resist this pathetic appeal, my prompt response to which made him quite happy and left me

with the agreeable conviction that human nature is much the same all the world over, whether it be manifested in a London cab-driver or a Korean abbot.

Anyhow, this excellent man stands forth in my memory as the pleasantest and most human of all the holy friars whom I was to see during the next few days of my wandering.

It was on the afternoon of the next day but one that, leaving the main Wensan-Seoul track beyond Hoiyang, we struck off eastward for our goal in the Diamond Mountains.

The night was spent in the native village of Sinhachang, where a rustic bridge of sticks and shrubs, whose unstripped autumnal verdure made a ruddy projecting fringe on either side, spanned a mountain stream.

On the next day we climbed a pass to a small shrine, or joss-house, which contained, amid a lot of fluttering and filthy rags—the offerings of generations of pilgrims—two pictures, said to be those of the King with two boys, and the Queen with two girls.

THE DIAMOND MOUNTAINS ARE SIGHTED

But this was not the real interest. Before us lay a view, not unlike, but more beautiful than, the wild outlook in the Matoppo Hills as you climb to Cecil Rhodes' burial place in South Africa. Four successive ridges, like the palisades of some huge mountain fortress, the walls of each stained crimson with the heart's blood of the dying maple, filled the foreground. Each must be climbed and each descended before the splendid barrier of the Keumkang San, or Diamond Mountains, fifth in the sequence, was reached.*

Photograph by C. K. Edmunds

TOMBS OF BUDDHIST PRIESTS AMONG THE DIAMOND MOUNTAINS

The shape and appointments of a Korean grave are exceptional and unusually beautiful. A gentle southern slope of a hill is flattened and the earth piled in a crescent around the north, east, and west sides of the plot. Between the arms of the crescent the grave is dug and when the earth is made into a mound over the body the circle is completed. The ground in front is then terraced to conform to the original slope and behind the grave a thick grove of pines is planted.

It could be seen, standing up beyond and higher than its outer barricades, thickly mantled up to its shoulders, above which a battlement of splintered crags cut a fretwork pattern against the sky. Redder and more red glowed the wooded slopes as the sun declined, and an ashen pallor flickered on the granite boulders and needle spires.

The last valley bottom was crossed, the

* It is uncertain whether the title is metaphorical, or refers to the serrated outline of the peaks, or is derived from the Diamond Sutra, one of the best known of the Buddhist scriptures. The Japanese form of the name is Kongo San, and they call the monastery of Chongansa (the Korean form) Choanji.

Photograph by C. K. Edmunds

A BUDDHIST TEMPLE AND PAGODA AMONG THE DIAMOND MOUNTAINS

"It was in the early centuries of our Christian Era that Buddhism made its way, it is alleged, from India, but more probably from China, into the Korean peninsula" (see text, page 367). During the period of its disestablishment and persecution the monasteries fell into disrepute, and though the traditions and spirit of the monastic order were kept alive here and there, the Korean cloister has never recovered from this cloud.

Photograph from the Marquess Curzon of Kedleston

THE FIFTY-THREE BUDDHAS OF YUCHONSA (SEE TEXT, PAGE 372)

With its 22 buildings, Yuchonsa is the largest monastery in the Diamond Mountains. Legend says that when 53 priests came to Korea from India to introduce Buddhism, they sat down under a tree to rest and were attacked by three dragons. A great wind summoned by the dragons tore up the tree, but the priests triumphed by placing an image of Buddha on each root; hence these figures.

Photograph by C. K. Edmunds

KOREAN DEVIL POSTS

The entrance to a village is usually guarded by a group of wooden posts, topped with hideously carved heads, on the theory that "all Nature is pervaded by spirits and genii, who require to be propitiated, and, when malevolent, to be kept aloof" (see page 355).

last river rushing down it in a rock-strewn bed was forded; the main range, in its livery of crimson and gold, was now in front of us.

MANY IMAGES AND EFFIGIES IN THE TEMPLE INCLOSURE

A lovely walk through a piny glade, past monastic resthouses and under the scarlet archway of the Hong Sal Mun, or Red Arrow Gate, that is the precursor of all buildings in Korea under royal patronage, led to a cleared space, where, above the rushing torrent, a cluster of buildings stood with their backs to a wooded hill.

These were the halls of the Chongansa Monastery, or the Temple of Eternal Rest, the oldest and most famous of the monasteries of the Diamond Mountains (see illustration, page 357).

First is an open-terraced gateway, completely hung with tablets recording the names of subscribers and containing a grotesque wooden monster painted red, green, and white, representing one of the semideified heroes or warriors, genii or spirits, who have been added in the passage of time to the Buddhist Pantheon, overlaying it with a mass of demonolatry that has well-nigh obliterated the original faith. A big bell hangs in a sort of wooden pen adjoining.

Next we pass through a pillared chamber into the courtyard of the monastery, at the head of which stands the main temple with double-tiered roof of tiles and deep overhanging tip-tilted eaves. The guest-houses are at the side.

In the central hall of the temple a gilded Buddha is seated in the middle on a raised wooden terrace or platform painted red. Above his head is a fantastically carved and painted canopy and in front of his face is suspended a green gauze veil.

Six great wooden pillars, a yard in diameter, formed of single tree trunks and colored red, support the roof, which is painted in faded hues of blue and green.

At the side of the hall is a painted scene containing three Buddhas, in front of whom are colossal images of warriors with diabolical faces.

Below the Buddhas, and indeed in front of every Buddhistic image, is a low stool or altar with a copy of the scriptures and a small brass bell, the indispensable ritual accompaniments of service.

On the right of the courtyard stand smaller detached temples containing other hideous effigies, colored red, green, and blue; their faces are, as a rule, painted white, and distorted with a horrible leer. One holds his beard in his hand; another, a book; a third, a scepter.

Small figures like boys are placed between them, carrying images of animals in their hands. Round are hung paintings on frames.

The second largest of these pavilions contains a fine pagoda canopy over the seated Buddha and a single row of figures seated and standing all round on a raised terrace.

ABANDONED DEVIL POSTS

The worship of a large percentage of the people of Korea takes the form of demonolatry. Between the evil spirits and the people two classes of sorcerers, the Mutang and the Pansu, stand as interpreters and intercessors. The Mutang is always a woman, and the Pansu a blind sorcerer. Both belong to the lowest class.

A BED OF KOREAN OIL-CLOTH PAPER

Evensong began soon after our arrival. A young monk pulled a gray robe over his white dress and red hood, knelt on a circular mat, intoned the conventional phrases, not one syllable of which did he understand, struck a brass bell with a deer's horn, and touched his forehead on the ground. The act is one not of prayer, in our sense, but merely of adoration.

We were accommodated in a guest hall or temple, the floor of which was covered with the famous Korean paper that glistened like worn oilcloth. We unrolled our bedding at the foot of the altar, whence a miniature Buddha smiled down upon us from a sort of cage.

The monks—who had exhibited the liveliest interest in our articles of toilet, particularly in combs, nail scissors, and sponges, none of which had they ever seen; still more in an inflated India-rubber cushion, and most of all in a mouth-plate of false teeth—retired at 7 p. m. and left us to ourselves.

In the morning we saw the pad-marks and droppings of a tiger, which had entered the courtyard during the night and paced around the closed buildings. Why

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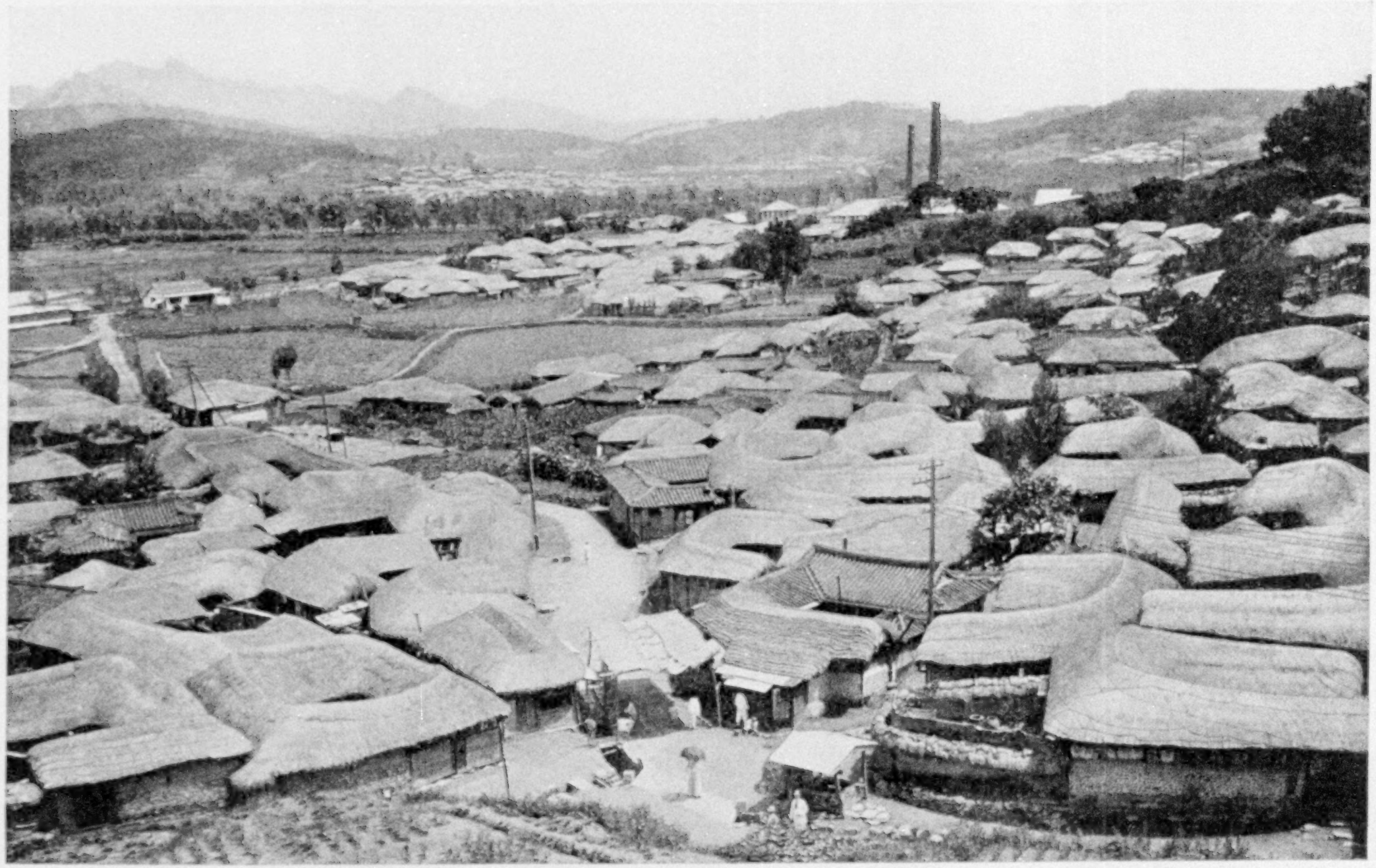
A BIRD'S-EYE VIEW OF THE CAPITAL OF KOREA

Seoul (Keijo in Japanese) lies in a basin among granite hills. When it was founded, a little more than 500 years ago, it was laid out on a large scale and inclosed by a great stone wall, in which are six large gates. Gas, electricity, telephones, and waterworks are gradually transforming the capital into a modern city. Its Korean name is pronounced almost like "soul."

XUM



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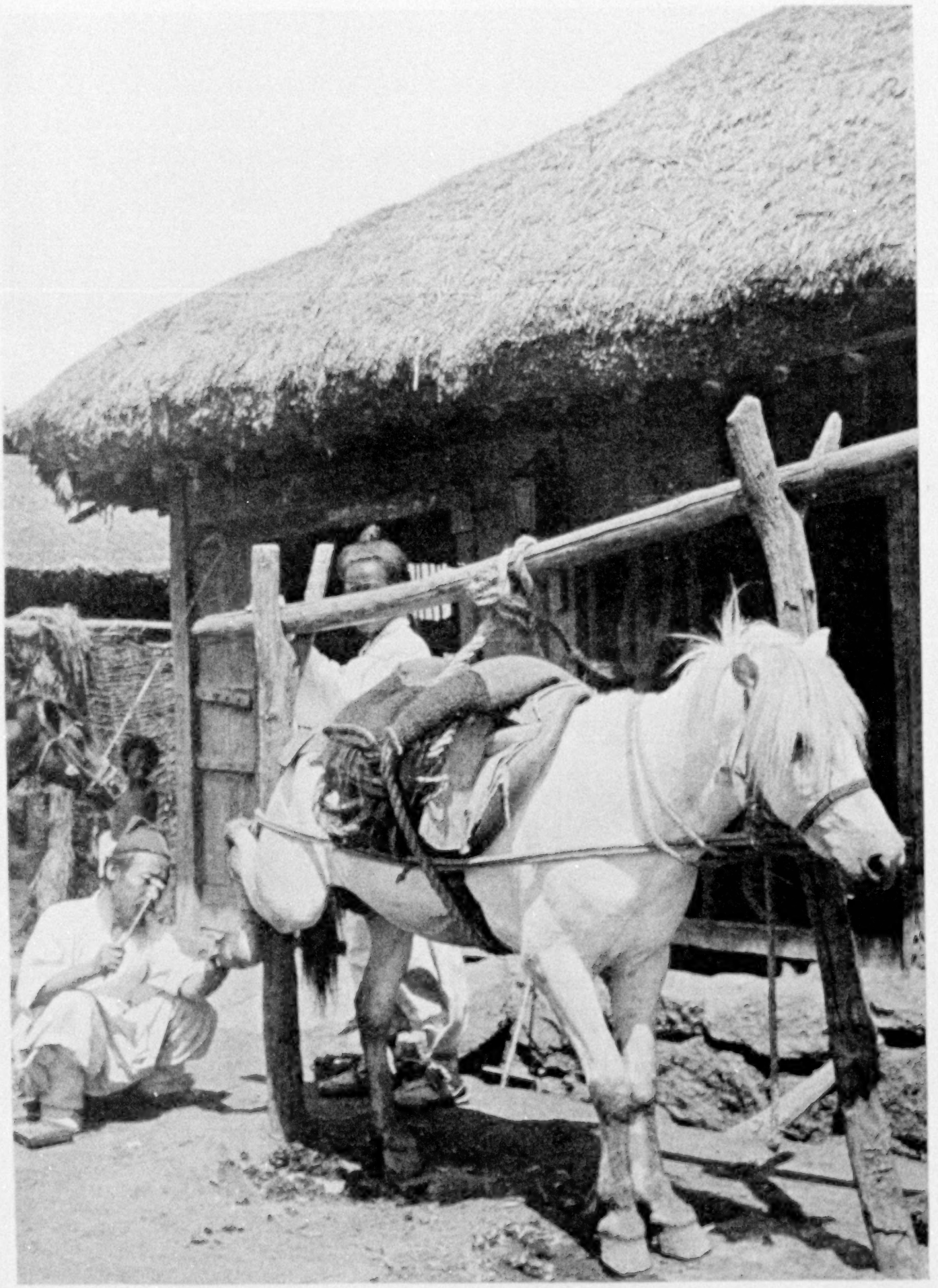
A VALLEY IN KOREA, SHOWING SEVERAL VILLAGES

The average Korean house is made of mud-plastered stones, usually built in the form of a half-square. A poorer form is a straight hut slightly longer than wide. The thatched roof is low, since the Korean squats rather than sits, and the rooms are sometimes only a few feet wide. The slightly raised floor of mud and stone is covered with plaster or wood, topped, in turn, by a thick native paper.



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"SAFETY" HORSESHOEING IN KOREA

Korean horses are vicious, due to the gross cruelty which is their usual lot. They are employed chiefly in pack-carrying, since frequently the lack of good roads prevents their use in drawing carriages or carts. In traveling, the Korean often uses a donkey. The ox is treated more humanely than the horse, doubtless because of its importance in agricultural work.

MAKING BREAD IN KOREA

After mixing, the dough is placed on a board and pounded with great mallets. At the bakeshops, where this process frequently takes place in the open air, dust and insects may be added to the ingredients. If objections should arise to this, the Korean can quote a native proverb: "He who would enjoy his food should not look over the kitchen wall."

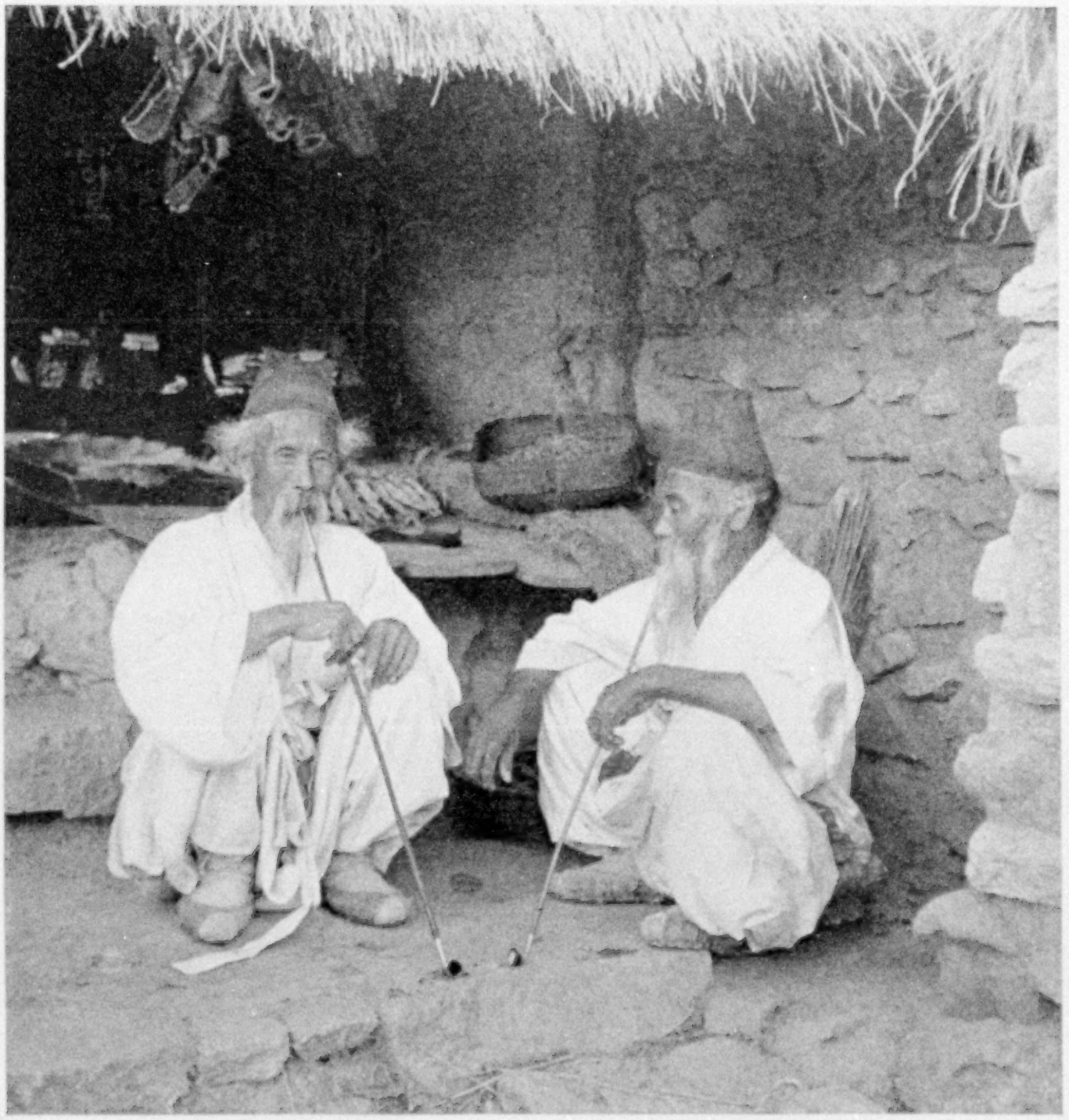
he had been content to do no more, no one could say. The jungles of northern Korea abound in these animals, which levy an ample toll on animal and human life (for many are man-eaters) and are pursued by guilds of hunters with primitive weapons or caught in traps and pits.*

Here let me say a few words about the Korean phase of monastic life, the last resorts of which I am now describing.

It was in the early centuries of our Christian Era that Buddhism made its way, it is alleged, from India, but much more probably from China, into the Korean peninsula. There in time it became not merely the official cult of the royal and ruling classes, but also the popular creed of the people.

Royal personages came on tour to the monasteries of the Diamond Mountains,

* See "Exploring Unknown Corners of the Hermit Kingdom," by Roy Chapman Andrews, in THE GEOGRAPHIC for July, 1919.



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"HONORABLE IDLENESS" IN KOREA

Almost every male Korean over 15 years of age smokes. To meet the great demand for tobacco, manufactories are being set up in Seoul and other large towns. The native pipe is long and heavy, with a tiny bowl. The Korean gentleman, or *yangban*, is strictly opposed to manual labor, the state of "honorable idleness" being his ambition. The charge of laziness cannot, however, be made against Koreans in general, particularly the agricultural workers.

which are said to have numbered 108 and which flourished greatly under this august patronage.

For more than a thousand years pilgrims from China and surrounding countries traveled great distances to its altars, cutting their names with infinite labor on the smoothed surfaces of the rocks and boulders in the valley bottoms, where the only track lay in the beds of the mountain streams.

Some of these inscriptions date back to the 13th century. In brass-bound chests in some of the principal halls of worship are still kept books of great value, printed in Chinese characters from wooden blocks more than 1,000 years old.

MONKS BECOME OUTCASTS

Then, more than three centuries ago, came the period in which Buddhism, hitherto venerated and popular, was re-

Photograph by Graham Romeyn Taylor

KOREANS AT A BAZAAR IN TAIKYU

The cone-shaped hats are made of rain-resisting oiled paper, and are worn over the queer "bird-cage" hats shown in the illustration on page 370. When not in use, the paper covering is folded in pleats like a fan and carried in the folds of the waistcoat.

jected, disestablished, and despised, being prosecuted by the court, whose official creed was Confucianism. No monk was allowed even to enter the gates of the capital; and the priests were degraded to the lowest class of the people and were abandoned by the population, whose barbarism sought refuge in the rudest and crudest forms of demonolatry, Shamanism, and superstition.

Some of the monasteries were destroyed by fire; others fell into decay. The survivors, no longer the haunts of piety and devotion, became pleasure resorts, which were visited by the upper classes for purposes of enjoyment, often of the least reputable kind, while the monks themselves became the outcasts of society, addicted to lives of combined mendicancy, depravity, and indolence.

From this cloud the Korean cloister has never recovered. At the time of my visit its recruits were, with few exceptions, drawn from the ne'er-do-wells and wastrels of society, refugees from justice, the victims of official persecution, pleasure-seekers of every description, profligates and paupers, destitutes and orphans—any, in fact, who wanted a safe retreat and a quiet life. Here and there an insignificant minority preserved the traditions or kept alive the spirit of the monastic order.

THE KOREANS ARE CONFIRMED SIGHT-SEERS

The seclusion and beauty of these mountain fastnesses at once attracted immigrants and afforded them the necessary protection.

No other people on earth, certainly none so backward in the scale of civilization,

Photograph by Graham Romeyn Taylor

A HAT SELLER IN THE BAZAAR AT TAIKYU

The Korean "bird-cage," or pill-box hat, is perched on a tightly coiled queue and tied under the chin with plain tapes. The rim is of fine bamboo, but the small crown is of horsehair braided loosely so as to expose the hair of the wearer to view (see also illustration, page 371). With men of wealth or distinction, the tape is supplemented by a chain constructed of two-inch pieces of the smallest-sized bamboo, separated by amber beads, hanging from either side of the hat, under the chin and thence to the waist.

is so passionately addicted to sight-seeing and pleasure-seeking or so sensitive to the charm of landscape as the Korean. They will travel miles on foot to climb a pass or see a view, celebrating their arrival on the crest by a mild jollification and by the deposit of a stone or the suspension of a rag in the little wayside shrine that crowns the summit, or, if they are sufficiently educated, by the composition of a few lines of doggerel verse.

To a people with such tastes the Diamond Mountains have always appealed with an irresistible fascination. There, in an area only 30 miles long by 20 broad, shut off from the rest of the world and accessible only by a few mountain passes, are still to be found more than 40 monasteries, which at the time of my visit were said still to contain from 300 to 400 monks, as well as a small number of nuns,* and lay servitors to the number of a thousand.

* In 1914, after the Japanese annexation, the numbers were: monks, 443; nuns, 85.

They subsisted in the main on mendicancy, wandering about the country, alms-bowl in hand, and—such is the simplicity or the superstition of the inhabitants—extracting liberal supplies either for the endowment of their idleness or the rebuilding and redecoration of their dilapidated shrines.

The whole situation was a paradox, whether we contrast the *mise-en-scène* with the inmates or the professions of monkish life with its practice.

I have described the Keumkang San as I saw them in the changing hues of autumn, and this is generally regarded as the best season; but I believe that the spectacle in spring, when the valleys and the hills are carpeted with the bright hues of violets and anemones, clematis and azaleas, and, above all, with lilies of the valley, and when the hillsides are ablaze with spring foliage and rhododendrons, the wild cherry and flowering shrubs, is not less captivating.

We devoted the day after our arrival

at Chongansa to a march on foot—for no other method of progression is possible in those regions except a sort of native chair borne by men—to the neighboring monasteries of Pakhuam, Pyounsa, Potakam, Makayum, Panyang, and Yuchonsa.

The march was along the valley bottom, in or alongside of or across the torrent bed, where a foothold can only be secured by wearing the native sandal of twisted string, and these have to be changed every few miles. Pakhuam was a tiny monastery, with only three inmates. Pyounsa, with ten, was larger, and had an abbot, wearing a huge circular hat.

Here was a newly painted temple with a portentous drum, the size of a small tun, resting on the back of a monster. There were brilliant paintings on the walls and a pink gauze veil hung in front of the figures of Buddha.

As we proceeded upstream the surface of the rocks was scarred with the incised names of generations of pilgrims, which must have taken days, if not weeks, to cut.

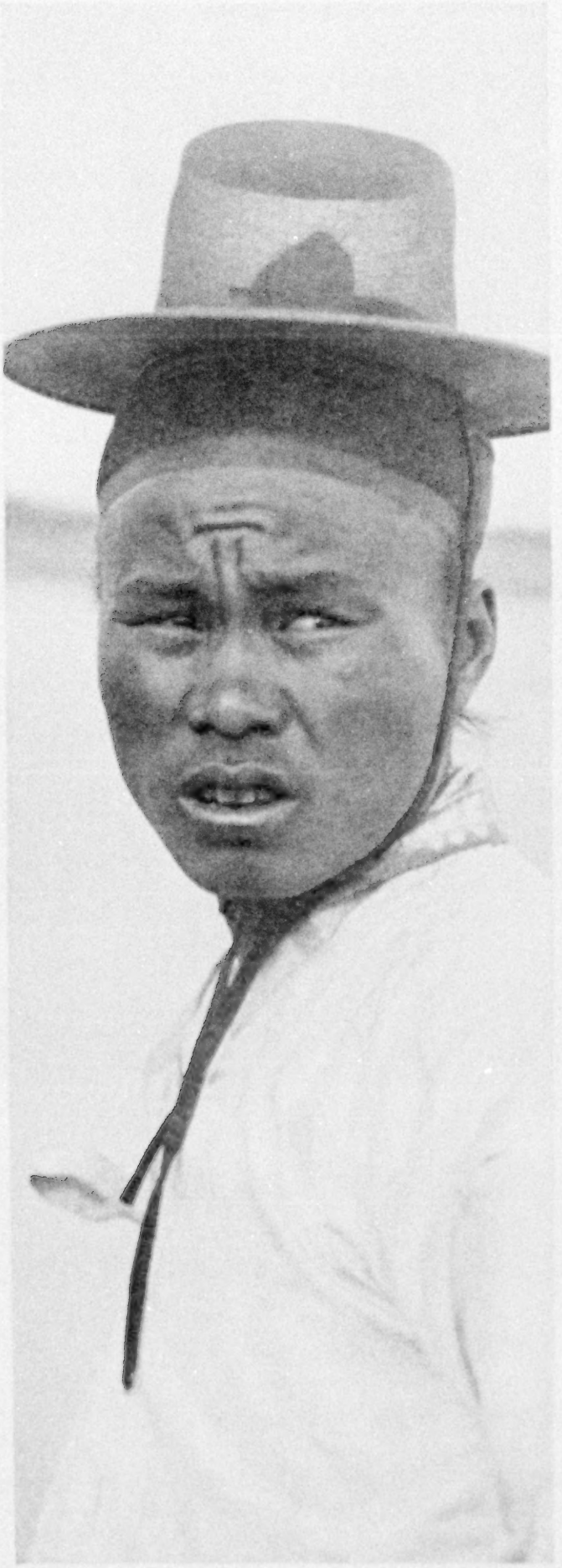
THE GRANDEST VIEW IN KOREA

Behind Pyounsa, at the top of the hill (2,750 feet), is seen the great view of the "Twelve Thousand Peaks," said to be the grandest in Korea. The title is merely a quantitative symbol; but if each pinnacle and cone and spire in that wonderful outlook were counted, it might be that the total would not be found too high.

Potakam is not a place of residence, but an altar to Kwanyin (the Goddess of Mercy), built high up on a ledge to the right of the valley and supported by iron girders and a cylindrical shaft or pillar of iron. Near Makayum is a colossal image of Buddha, known as the Myokil Sang, 40 to 50 feet high, sculped in relief on the face of the rock, with a small stone altar in front.

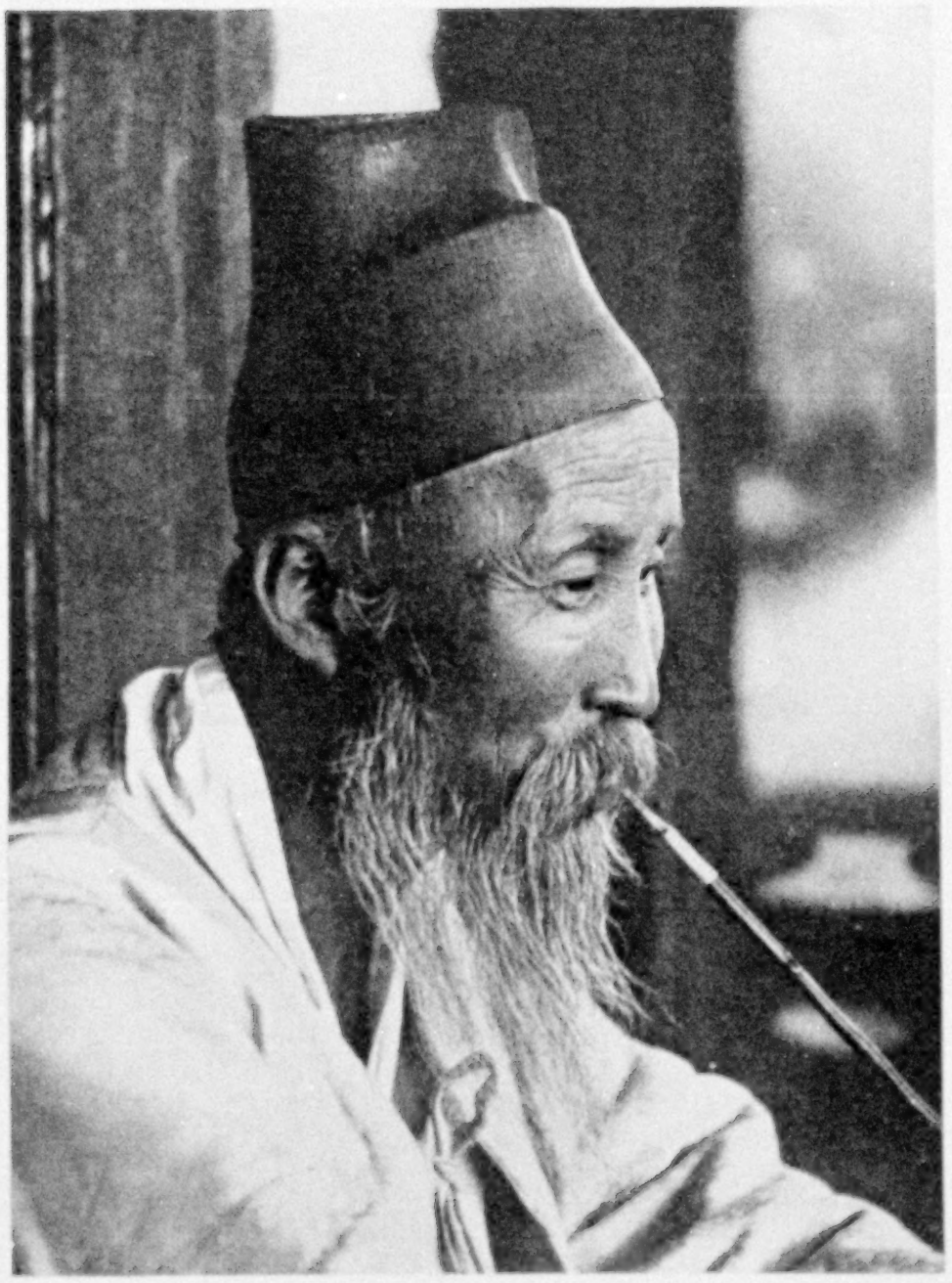
The right hand of the figure is raised and the fingers of the left are outspread across the breast. The expression of the countenance is placid and serene.

Near Makayum is some of the loveliest scenery in these mountains. Here, in a very beautiful ravine, called Manpoktong, or the Grotto of Myriad Cascades, is the Pearl Pool, Chinjutam; a neighboring peak, with a wonderful outline, is Sajapong, the Lion Peak, and a little farther



A KOREAN TYPE

The unmarried Korean must not wear a hat or tie up his hair and is always considered a "boy," no matter what his age may be. When married, he is allowed to twist his hair into a conical mass on top of his head.



OLD AGE AND A PIPE

White clothing is the emblem of mourning in Korea, and the mourning period is three years. In the days of the country's independence, when a royal personage died, the entire population put on white. This custom is said to account for the people's having adopted white clothing for ordinary wear, so that they might be ready when death came, either in their own or in the royal family.

to the northeast are two Manmulsangs, New and Old, which means "Aspect of Myriad Things," the idea being that the fantastic rocks in these areas resemble, as they might well be thought to do, all existing shapes in the world.

Were such scenery to be found in Europe, thousands of visitors would pour to it from every part of the Continent.

From here we crossed the watershed by a very steep climb over the Naimuzairyung Pass, 4,300 feet above the sea, which is visible from it in clear weather, and descended upon the small monastery of Panyang, and the much larger and recently restored establishment of Yuchonsa.

A great deal of money had been spent here; and the abbot and his following, of whom 13 monks and 8 lads happened to be home (there are said to be 100 monks in all), were on a different plane, both of cleanliness and manners, from their neighbors.

Yuchonsa is now the largest monastery in the Diamond Mountains and comprises no fewer than 22 buildings. The main temple contained a very elaborate carved and painted erection or iconostasis, with 53 little images of Buddha, each perched on a little stand with a silk cloth below, and framed in a grotesque-colored background, made to represent the roots and branches of a tree twisted in the most fantastic convolutions (see p. 361). On either side of this monstrosity were two great fan-shaped bouquets of scarlet and white flowers.

A nine-storied pillar or stone pagoda stood in the court, on the right hand of which were three temples, with small grotesque seated figures all round, and fresh paintings on the ceiling.

The guest chambers of this monastery were the best that we had seen, and we ate our lunch in a small room with a papered floor, warmed by a flue beneath.

I have said little about the scenery on this day's march, which was a total distance of 90 li, or between 25 and 30 miles. But it was as glorious as any that had preceded it, though the march was much

Photograph by J. B. Millet

A BILLBOARD AT A KOREAN POLICE STATION

A part of this billboard announces that bandits will be beheaded and shows photographs to prove it. The placard at the lower left side of the picture refers to an unsuccessful attempt at thievery. In writing, the Korean uses the Unmun, a system of phonetic signs formulated early in the fifteenth century and resembling the Sanskrit and the Tibetan alphabets. It is written vertically from right to left. The educated classes use Chinese ideographs. The native language prevails throughout the country, the changes of dialect being comparatively insignificant.

more fatiguing, a good deal of it being over slippery and slanting boulders by the torrent side, on which the traveler could not possibly retain his footing in soled boots and where he would be helpless without the native string sandal.

In parts it is a nasty climb, for the rocks have been worn smooth by the attrition of pilgrims' feet for centuries, and just below glimmers many a deep pool, into which the slightest misstep will send the wayfarer headlong.

The torrent must further be crossed and recrossed many times by slender bridges, composed sometimes of a single pine stem. A further peril arises from the stepping-stones, consisting of rude boulders, uneasily perched in the foaming stream and wobbling under the tread.

The return journey from Yuchonsa to Chongansa was made by a different route, and we did not get back till 7:30 p. m., after a day of 13 hours.

WATCH, KNIFE, AND CASH DISAPPEAR

After another night at the foot of the altar whence the smiling Buddha looked down, we packed up before 6 in the morning to resume our journey to Seoul. Then it was that my watch and chain and knife and the whole of my spare cash were found to have disappeared from under my pillow, where they had been hidden throughout the night.

A prolonged altercation ensued, in which everyone, from the abbot downward, took part—indignant charges on the one side, violent protestations of innocence on the other.

Over an hour had been spent on this futile fusillade when it became necessary to act. Accordingly we announced our

Photograph by J. B. Millet

KOREANS READING NOTICES POSTED ON A BILLBOARD (SEE ALSO PAGE 373)

intention to take the abbot (who, by the way, could hardly have been mistaken for an ecclesiastical dignitary in any country but Korea) with us to Seoul, and we placed him in the custody of the two official *yamen*, runners who had been deputed to accompany our party.

At 7:15 a. m. we were on the road, the arrested abbot walking sulkily between his guards in the rear. I can see the swarthy vagabond as I write.

VALUABLES FOUND, ABBOT RELEASED

We had not proceeded for more than a quarter of a mile when a shout was heard from behind and a monk came running after us, holding the recovered watch and chain and knife in his hand. The cash had, of course, disappeared.

The abbot was released, and returned to his peccant flock; but there was no need to offer him the customary tip, since his followers had thus effectively anticipated its voluntary presentation. Had we taken him to Seoul, I tremble to think what might have been his fate.

From the valley we presently climbed to the top of the Tanpa Ryong, or Crop-hair Ridge (so called because on reaching this point the candidate for the cloister in olden days was supposed to divest himself of his locks and to assume the shaven crown). Here is a magnificent double view—on the one side the entire sweep of the Keumkang San range, 20 miles in length, the russet vesture of the foreground leading up to the bewildering panorama of gray steeples, pinnacles, and crags, just tipped with a cloud cap on the topmost spires; on the other side a valley equally as noble as that we had left, and beyond this the mountains, billow rolling upon billow for from 60 to 70 miles, till lost in the blue haze of the horizon.

Next day we rejoined the main road to Seoul at Changdo; and so ended my never-to-be-forgotten visit to the monasteries and mysteries of the Diamond Mountains.

Since the Japanese annexation of Korea the monasteries have been subjected to strict regulations, as regards their property, their buildings, the choice of the superior, the tenure of office, and the course of life.* There is now an examination for the priesthood; and I am afraid that if I went back to my former haunts I should no longer find myself the victim of monkish thieving or be able to arrest an abbot of Chongansa.

* These regulations are embodied in two Temples Orders of September and October, 1911, applicable to 30 principal monasteries, the names of which, as they are given in Japanese, I cannot always identify with the Korean equivalents.

GOLDFISH AND THEIR CULTIVATION IN AMERICA

By Hugh M. Smith

With Color Plates Painted from Life by Hashime Murayama

THE fascinating, instructive, and profitable pastime of keeping and cultivating goldfish has many devotees in the United States, and recent years have witnessed a widespread increase of interest in the subject. This interest is one aspect of the noteworthy movement which impels both young and old to get close to Nature and to become familiar with the behavior and requirements of living creatures.

The popularity of the goldfish as a special object of attention depends on the attractive form and color of the different varieties, on the readiness with which they submit to the limitations of amateur knowledge and facilities, and on the low cost and ease of obtaining desirable fish for stocking ponds, fountains, and home aquaria.

Nevertheless, only a small proportion of our people have as yet come under the goldfish spell. Few have partaken of the delights of association with any of the varieties of the goldfish species, but a genuine treat awaits the men, women, and children who for the first time venture into this seductive field.

The goldfish is the most extensively cultivated and most widely used of all purely ornamental creatures. In the number and distinctiveness of varieties that have been produced by cultivation, it holds front rank among animals. In the exquisite beauty and astonishing combinations of form and color that have been achieved by the fanciers of Asia, Europe, and America through long generations of patient effort, it occupies an absolutely unique position.

THE WILD GOLDFISH IS A PLAIN CREATURE

Although it is one of the best-known fishes in America at the present time, we must bear in mind that the cultivated goldfish is an Asiatic immigrant. Welcomed to our shores nearly fifty years ago, it not only has adapted itself to our environment, but has undergone substantial improvement and acquired features that have a distinctive American stamp.

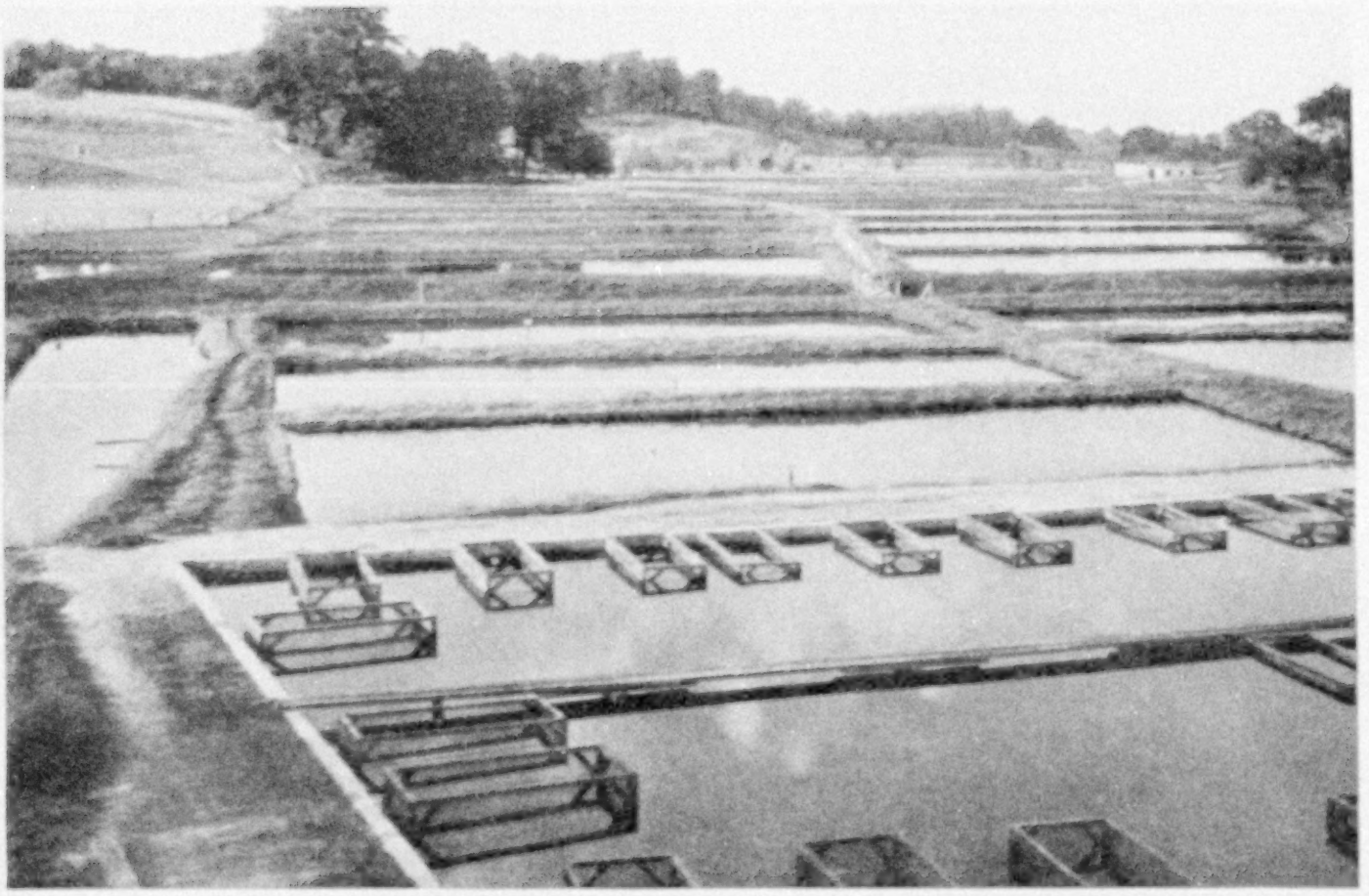
The goldfish belongs to the Carp, or Minnow, family (*Cyprinidæ*), which has several thousand members, with representatives in nearly all temperate and tropical parts of the world. The *Cyprinidæ* are most numerous in Asia and North America and are one of the most important of fish families to the human race.

The wild fish from which the numerous cultivated varieties of goldfish have been derived is a plain, inconspicuous species, without any suggestion of the remarkable possibilities of development in form and color to which it has proved susceptible. The body is moderately elongated and compressed, and covered with large, coarse scales; the fins are relatively small; the color is plain olivaceous. A length of from eight to twelve inches is attained.

The wild goldfish resembles the common domesticated Asiatic Carp; and Carolus Linnæus, the father of the modern system of classification and nomenclature of animals, placed the two fishes in the same genus and called the goldfish *Cyprinus auratus*, evidently basing his specific name on a golden or cultivated example.

The goldfish may be readily distinguished from the Asiatic Carp, however, by the absence of little fleshy appendages, called barbels, at the corners of the mouth. In later zoölogical works it is assigned to the same genus as the Crucian Carp, or Karass, of Europe and western Asia, and its present-day scientific name is *Carassius auratus*.

The ancestral home of the goldfish is China, where it still abounds in a wild state. It exists also and is widely distributed throughout Japan, but there is a possibility that the wild fish may not be indigenous in Japan, but has escaped



Photograph from Grassyfork Fisheries

A PORTION OF A GOLDFISH PLANT AT MARTINSVILLE, INDIANA

The chains of ponds of a fish farm are provided with special facilities so that they can be drained at the approach of cold weather, when the fish are removed, sorted, graded, and marketed. When a pond is to be drained the fish are withdrawn into the float traps, which have wooden floors and wire mesh tops and sides. From the traps they are removed in special fish buckets to rooms where they are counted and packed in 10-gallon cans of water for shipment.

from cultivation and reverted to its original character, just as it has in Europe and America.

EARLY CULTIVATION OF GOLDFISH IN ASIA

It was only natural that the attraction and possibilities of goldfish cultivation should have been realized at a very early date by a people so clever and imaginative as the Chinese, who must be given credit for establishing the colored variety of the wild fish, for initiating, for a purely ornamental fish, a fashion which has never waned, but has grown in popularity with each succeeding century, and for developing new features in color and form which became the basis for most or all of the remarkable varieties that are known to modern fanciers.

At a very remote time the Chinese began to breed goldfish and to produce new varieties. It has been said that the Koreans also participated in the early cultivation of goldfish, but there is no existing evidence of original work on their part.

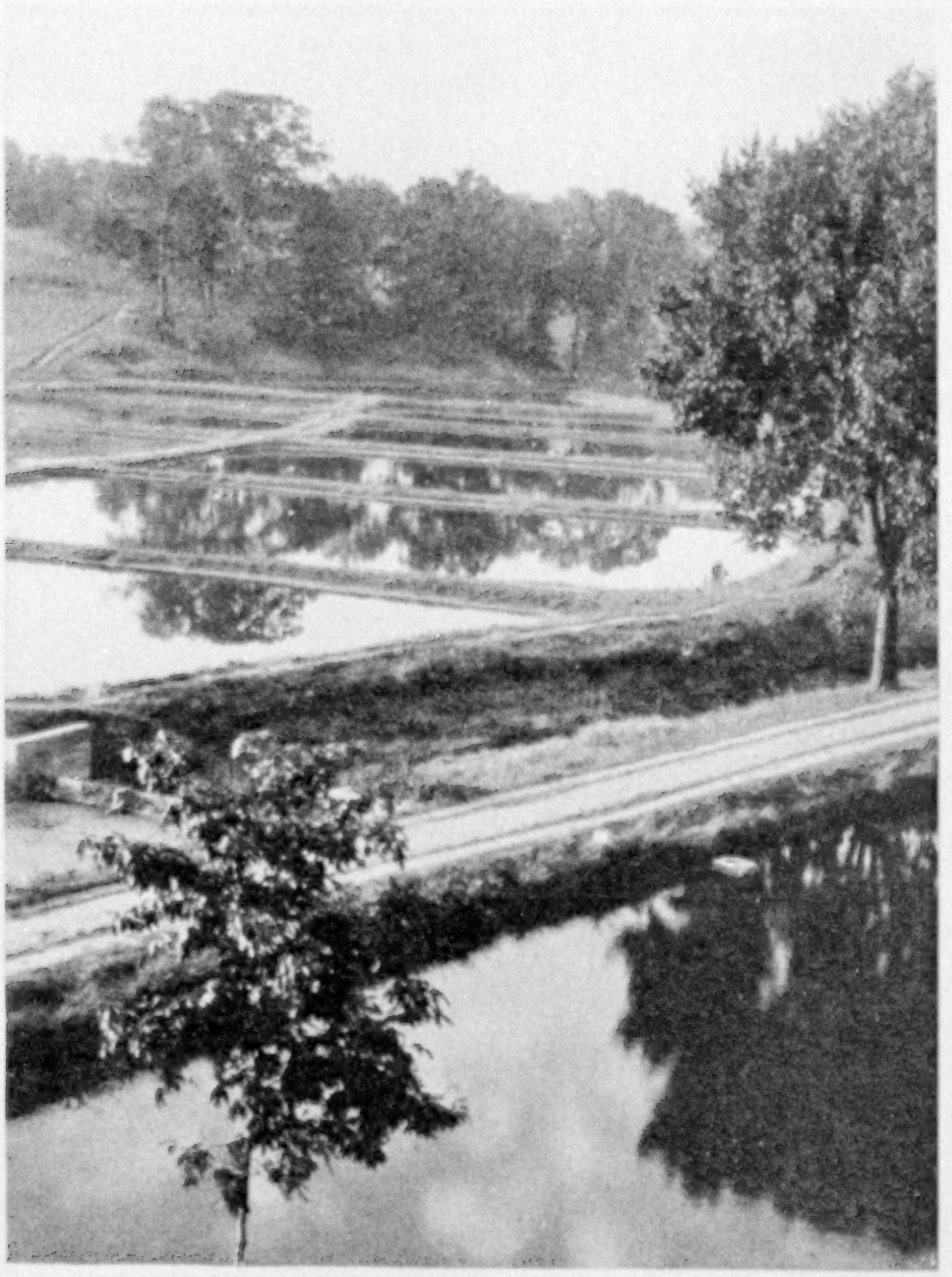
The colors and forms the Chinese apparently favored and eventually established may be regarded as indications of the artistic instincts of the race. It is interesting to observe that the expression of Chinese art as manifested in goldfish lay mainly in the production of grotesque, bizarre, or horrifying forms.

This was in strong contrast with the Japanese, the other Oriental race among which goldfish breeding reached an advanced stage at a comparatively early date, who have in general sought to produce the graceful, harmonious, and pleasing. Characteristic features which the Chinese engrafted on the goldfish stock are dragon eyes, finless backs, and calico colors.

In Japan the colored goldfish has been known from the year 1500. It went in from China, either by direct importation or by intermediary steps, through Korea or the Ryu-Kyu (Lu-Chu) Islands, as subsequent importations did. The cultivation of goldfish in Japan doubtless

began not long after the original importation. Between 1700 and 1710 a goldfish farm was started not far from Kyoto, and the author has visited a goldfish establishment in the same region that had been in continuous operation since 1763.

The Japanese at an early date began to improve on the goldfish introduced from China. They employed original methods of culture and applied their innate skill and perseverance in developing hitherto unknown characters, with the result that eventually many new varieties were brought into existence, the Japanese became the leading goldfish breeders, and Japanese varieties were soon known around the world.



Photograph from Grassyfork Fisheries

A CHAIN OF ARTIFICIAL GOLDFISH PONDS IN INDIANA

The ponds are usually terraced so that the water will flow by gravity through them from some dependable neighboring stream, which is not susceptible to floods or freshets. The average pond is made by banking a wall of earth three to four feet high around the proposed site.

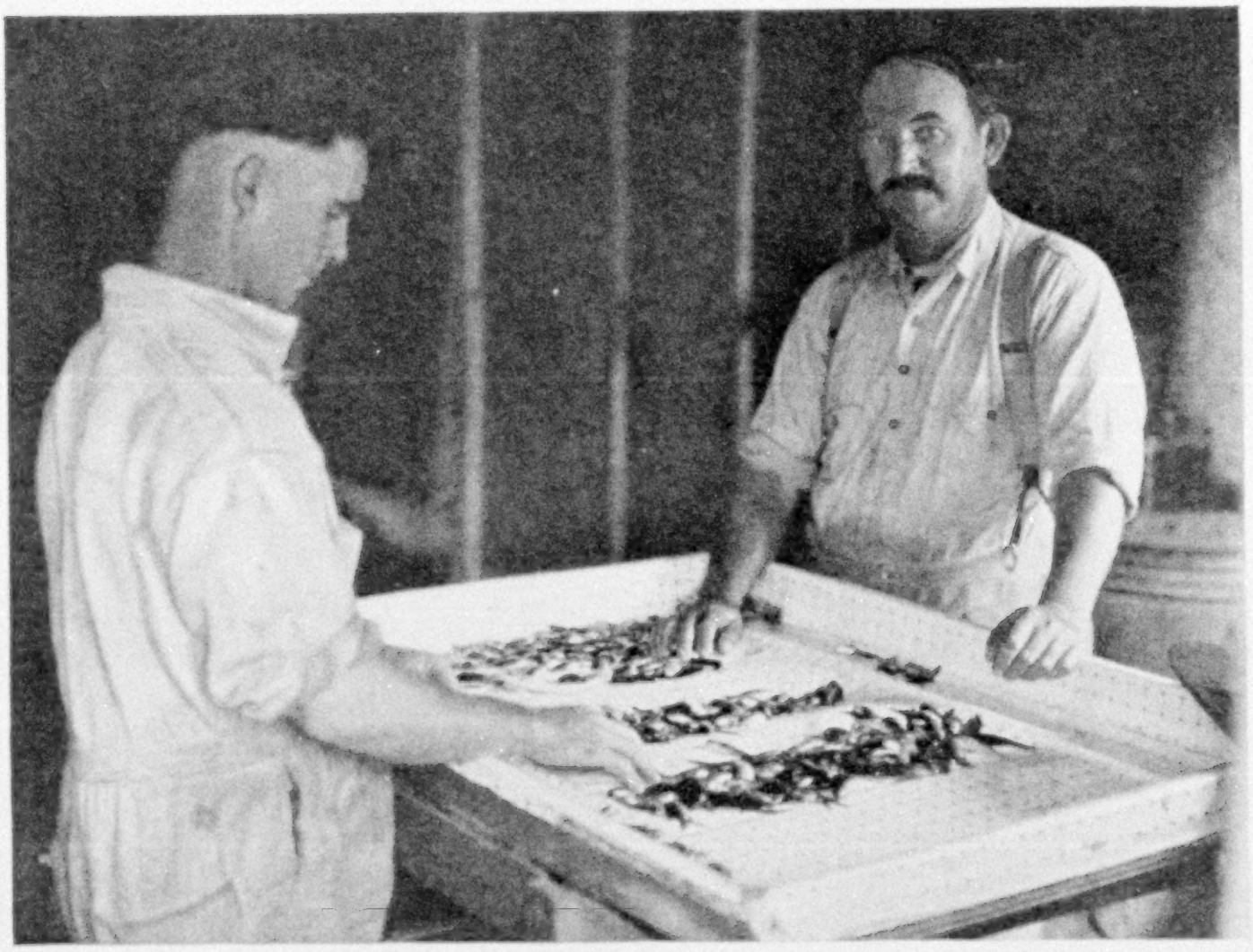
IMPORTATION OF GOLDFISH INTO EUROPE AND AMERICA

Early European travelers in China took back accounts of the striking goldfish which they found being cultivated in various parts of the Celestial Empire, and finally some living specimens reached Europe. Only a very hardy fish could have withstood such a voyage, with the imperfect facilities for transportation and the limited knowledge of fish requirements that then existed.

The first goldfish to reach Europe may have arrived in England as early as the time of James I (1566-1625), but a more authentic date is 1691. At a much later time the fish were received in France, and it is recorded that about the middle of the eighteenth century goldfish were brought from China as a present to Madame de Pompadour, of the court of Louis XV.

In more recent years goldfish varieties were extensively imported from Japan, and goldfish rearing began in Great Britain and on the continent of Europe, the most successful fanciers being Germans.

The direct importation of Oriental goldfish into the United States began at a comparatively recent date. The first specimens seem to have been brought over by Rear Admiral Daniel Ammen, U. S. N., in 1878, and fish of that lot presented to the United States Fish Com-



Photograph from Grassyfork Fisheries

SORTING GOLDFISH

There are three market sizes of goldfish ranging from one to four inches in length, and the more common varieties sell for from $15.00 to $45.00 per thousand. All the fish that exceed four inches are usually classified as brood fish and are kept in special ponds through the winter from which the ice is removed from time to time to prevent suffocation. In the spring they are transferred to the brood ponds, about 100 to 175 brood fish being allowed to a pond ranging from one-half to an acre in extent.

missioner were extensively bred at the Government nurseries in Washington. Subsequently, large numbers of Japanese goldfish were brought into the United States by private fanciers and by regular dealers, and other importations were made from Europe.

The different Asiatic varieties have now been so widely and successfully introduced into the United States and may be grown in such large quantities that further importations are for the most part unnecessary, except for the purpose of introducing new strains.

EVOLUTION OF THE ORNAMENTAL GOLDFISH

In a rather numerous group of fishes to which the goldfish belongs there is a well-marked tendency toward albinism. The Golden Ide, the Golden Tench, the Golden Carp are examples of related fishes, highly ornamental varieties of which have been established from dull-colored wild species. A deficiency of the olivaceous pigment in the skin of the wild goldfish would leave a whitish, yellowish, or golden color, while irregular distribution or concentration of that pigment would result in a variegated coloration, with dark greenish or blackish spots or areas separated from lighter ones.

By the selection of abnormally colored individuals for breeding purposes, light and variegated races were in time established. Abnormalities of shape and structure in wild fish may have been developed and perpetuated in the same way.

It seems probable that the color variations came first and that abnormalities in form arose later in incipient or already established color varieties. This may

Photograph by Kiyoshi Sakamoto

WOMEN EXAMINING BABY FISH IN THE SORTING ROOM OF A GOLDFISH FARM IN JAPAN

have been the result of unnatural conditions attending efforts of the early fish culturists to perfect the varieties of light-colored or variegated fish.

The goldfish has proved to be a very plastic species, as shown by the profound modifications in form and color that have been brought about in modern times by the experimental efforts of Japanese and American breeders. The end has certainly not been reached, and future culturists may be able to develop varieties as extraordinary as any that have heretofore been produced.

It is this possibility that has added to the fascination of goldfish culture, which has been able to hold the interest of amateurs and professionals for so many centuries, other factors being the fish's hardiness, prolificness, and amenability to complete domestication.

The evolution of the modern goldfish varieties has received the attention of biologists of Asia, Europe, and America. The modifications in coloration, form, and structure that have been brought about by cultivation have received the consideration of eminent zoölogists.

XUM

Photograph by Kiyoshi Sakamoto

A JAPANESE GOLDFISH VENDER

What has been achieved has, of course, been in accordance with natural laws, of which all the earlier and many of the later culturists were ignorant, their efforts being largely empirical.

The late Professor John A. Ryder, one of the ablest of American biologists, stated that the varieties of goldfish "are the most profoundly modified of any known race of domesticated animal organisms."

Especially remarkable is the development of the caudal and anal fins, both of which in the more highly cultivated forms have assumed a character that does not occur in Nature in any species of fish and has not been cultivated in any other species. In the wild fish these fins are always single, unpaired, and placed in the median line; in a number of domesticated varieties they are double, paired, and located on either side of the median line.

Modification of the caudal fin by selective breeding has been one of the special aims and achievements of the modern goldfish fanciers. The extent to which the simple, small tail fin of the wild fish has been gradually developed is one of the wonders of science. Its double form is not a mere superficial splitting of the soft parts, but represents an actual bi-

Photograph by Kiyoshi Sakamoto

A GOLDFISH DEALER'S AUCTION SALE IN THE SUBURBS OF OSAKA, JAPAN

The signboard announces that the owner has for sale several different kinds of fancy goldfish, eels, and a special dwarf variety of eel; that he is a wholesale and retail merchant dealing in all kinds of fresh and salt water fishes.

ateral separation of the bones from which this fin arises.

SCALED AND "SCALELESS" GOLDFISH

All goldfish have scales, but in the course of cultivation varieties have been developed the scales of which are so thin and transparent as to be inconspicuous and, under certain conditions, almost invisible. It is to such fish that the inaccurate but convenient term of "scaleless" has been applied by fanciers; "transparent-scaled" would be a better name.

The involution of the scales may occur in any of the more highly cultivated varieties. The condition probably originates in fish produced in the warmer parts of China, and is always associated with other characters which are esteemed by many fanciers. The scaleless fish are less hardy than others of the same variety, being very sensitive to low temperatures. They never exhibit the metallic luster often seen in goldfish, but they develop a deeper, richer red than other forms, and they may have blue, purple, lavender, and calico colors that the scaled varieties do not possess.

Another peculiarity of the scaleless types is that whereas young of the ordinary fish pass through a series of color changes, which may require a year to attain their full development, the scaleless young pass directly from their larval blackish phase to their final livery, and may achieve this change in a few months.

THE "TELESCOPES" AND "CELESTIALS"

One of the bizarre features produced in goldfish by Chinese breeders is an abnormality of the eyeballs, giving rise to varieties known in China as Dragon-eyes and in Europe and America as Telescopes and Celestials or Celestial Telescopes. This character originated in China probably at a very remote period. Strangely enough, however, it was unknown in Japanese fish until the close of the Chino-Japanese War, in 1894-5. Telescopes have been very extensively bred in Japan and America, where new varieties and combinations have been

Photograph by Kiyoshi Sakamoto

FEEDING THE FISH IN THE PONDS OF A JAPANESE FARM AT KORIYAMA

effected by the use of the special eye characters.

The name Telescope has become generally adopted for these fish, but is not very apt. The eyes are not telescopic—that is, long-sighted—but are extremely myopic, or short-sighted. Either the Chinese name of Dragon-eyes or the Japanese name of Demekin (meaning pop-eyed) seems preferable. The fish have very defective sight. They seem to be unable to adapt themselves to the protruding eyeball and are likely to injure the eye by swimming against hard objects, and then become blind.

The development of the protruding eyes in the Telescopes has been brought about in the same manner that other features of the cultivated goldfish have been acquired—that is, by selective breeding. There has, however, been a widespread popular belief, in defiance or ignorance of the laws of heredity, that the peculiar eyes in question have been produced by subjecting the young fish to a course of treatment. In a work, "The Goldfish and Its Culture," published in New York in 1910, this absurd notion is given currency in the following words: "The direction of the eyes is artificially produced by straining them when young in the desired angle in dark surroundings with a ray of light from one direction only."

RAISING GOLDFISH FOR MARKET

The large and growing demand for goldfish for ornamental purposes and for the delectation of amateurs has led to

Photograph by Kiyoshi Sakamoto

SCOOPING OUT RYUKIN FISHES, READY FOR SHIPMENT, FROM THE TEMPORARY SMALL POND (SEE ALSO ILLUSTRATION, PAGE 394)

the establishment in the United States of a trade of considerable magnitude. The raising of the fish for market has attained large proportions, and goldfish farms in various parts of the country supply wholesale quantities for the retail trade. Among noteworthy establishments on a large scale, those in Frederick County, Maryland; Martinsville, Indiana; Thornburg, Iowa; and Langdon, Kansas, may be mentioned.

Goldfish farming in Frederick County, Maryland, began about 1889, and in recent years from 35 to 40 establishments have been in operation, employing several hundred men and boys during the busiest part of the season. The annual output, consisting almost entirely of the common variety, now amounts to between three and four million young fish, which are sent to distributors in Baltimore, Philadelphia, New York, Boston, Cincinnati, Toledo, and other cities.

At a goldfish farm in Indiana many varieties are bred in the 200 ponds covering an area of 100 acres, with facilities for producing five million fish annually.

Ponds in which goldfish are being raised for market are drawn in autumn, the young of the year are taken out, counted, sorted, and then shipped in cans or tubs for the retail trade.

Notwithstanding the large number of young goldfish put on the market each season, the demand is usually far in excess of the supply.

GOLDFISH SOCIETIES

Goldfish breeding establishments are very interesting places and are often centers of attraction for a large district, since they combine landscape, waterscape, and floral features in infinite variety with the practical production of ornamental fish for market.

In various American cities, as in Japan

and Europe, particularly in Germany, goldfish breeders and fanciers have formed associations for mutual pleasure, instruction, and profit. Such societies may be advantageously organized in any community where interest in goldfish culture is shared by even a few persons, and can be made to serve a very useful purpose in the social and business life. Goldfish and aquarium societies now exist in Boston, New York, Brooklyn, Buffalo, Jersey City, Newark, Philadelphia, Lancaster, Pittsburgh, Baltimore, St. Louis, Denver, and San Francisco.

One of the most entertaining activities of goldfish societies is the holding of public exhibitions, discussions, and competitions, with the award of prizes for the best specimens of goldfish of different classes.

The various societies have adopted fixed rules for judging the quality of different breeds and scales of values for particular features, just as in dog, poultry, and cattle shows. The Philadelphia Aquarium Society, which was one of the pioneers in this field and gave rise to a number of local offshoots with about 300 members, holds monthly meetings for competition among its members, a definite goldfish variety being shown at each meeting, and cups, medals, and other awards being given.

The schedule of points adopted by this society gives an idea of the stress placed by amateurs on the outstanding characters of the varieties.

Thus, in assigning 100 possible points to a fish, a Japanese Fringetail would be allowed a maximum of 24 credits for the shape of body, 26 for the caudal fin, 18 for the dorsal fin, 5 for the anal fin, 1 each for the other fins, 18 for color, and 5 for style; a Comet would be given 20 points for body, 32 for caudal fin, 20 for dorsal fin, 1 for each of the other fins, 18 for color, and 5 for style; while a Lionhead might receive 18 points for body, 18 for caudal fin, 5 for anal fin, 1 for each of the other fins, 32 for head, 18 for color, and 5 for style. A Shubunkin would be allowed 60 possible points for color, and a Telescope or Celestial might secure 18 or 32 credits for eyes.

The varieties of goldfish bred by American fanciers at the present time comprise about a score of well-recognized forms with distinctive names, together with a number of minor forms. Nineteen varieties represented in the accompanying plates are the Common goldfish, the Comets, the Fringetails and Veiltails, the Nymphs, the Fantail, the Veiltail Telescopes, the Celestial Telescope, the Chinese or Old Style Telescopes, the Veiltail Moor Telescope, the Lionhead, the Oranda, and the Shubunkin.

A VARIETY OF ORNAMENTAL PLANTS GROWN IN AQUARIA

The plants in a goldfish aquarium are ornamental and they also are extremely useful. They give off oxygen and their roots absorb impurities. Even if tightly covered, an aquarium can support fishes provided it contains a healthy plant growth and is placed in good light. The plants yield enough oxygen, under the influences of the light, to supply the fishes.

The Waterweed, the Latin name of which is Anacharis (see Plate VII), is a widely used aquarium plant, with a number of aliases—Water Pest, Ditchmoss, Babington's Curse, and Water Thyme. Its bad names are due to its good aquarium habit of rapid growth. It is mosslike, grows on a fragile stem, and is a good oxygenator. It is so susceptible to light that the same plants present varying appearances in different exposures, especially in the spacing of leaves.

The submerged Spatterdock (see Color Plate VIII) is a comparatively new aquarium introduction. It has a spade-shaped leaf, in contrast with the mosslike growth of the Waterweed. The Southern Spatterdock is valued especially because of its "fast" colors; its bright green leaves do not darken in strong light. The Japanese Spatterdock has darker leaves, of a sage-green hue, which are broader at the base.

The Fanwort, whose Latin name is Cabomba (see Color Plate VI), is a veritable wildflower of the ponds along the Atlantic seaboard from Maryland to North Carolina. It can be had in bunches in pet shops and is the popular decoration for the goldfish bowl. Its brittle quality does not recommend it so highly to connoisseurs, because a number of active fish in a large aquarium soon pick it to bits. Its leaves are fine-cut, fanlike, and bright green. One variety, Rose Fanwort, has

(Nymph)

(Fringetail)

(Comet)

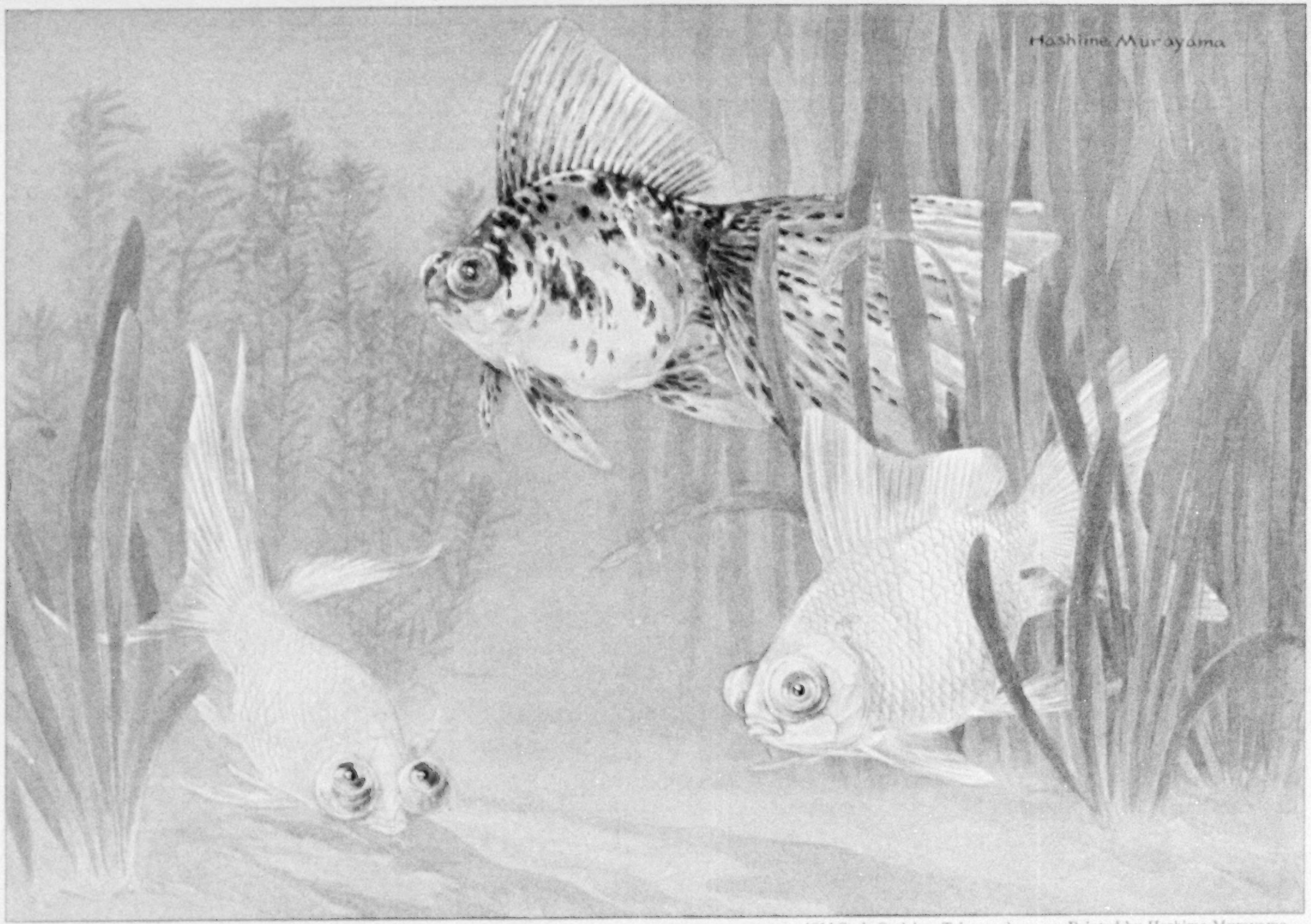
Painted by Hashime Murayama

©

THE PEACOCKS OF THE GOLDFISH WORLD

The Fringetail variety of goldfish has an extraordinary development of the tail fin, sometimes twice as long as the fish, forming a draperylike mass which falls into graceful, pendent folds. The fancifully named Nymph is a variety of the Fringetail. The Comet might well claim to be 100 per cent American, for it is thought to have originated in Government fish lakes near the Washington Monument in our National Capital.

(Scaleless Veiltail Telescope)

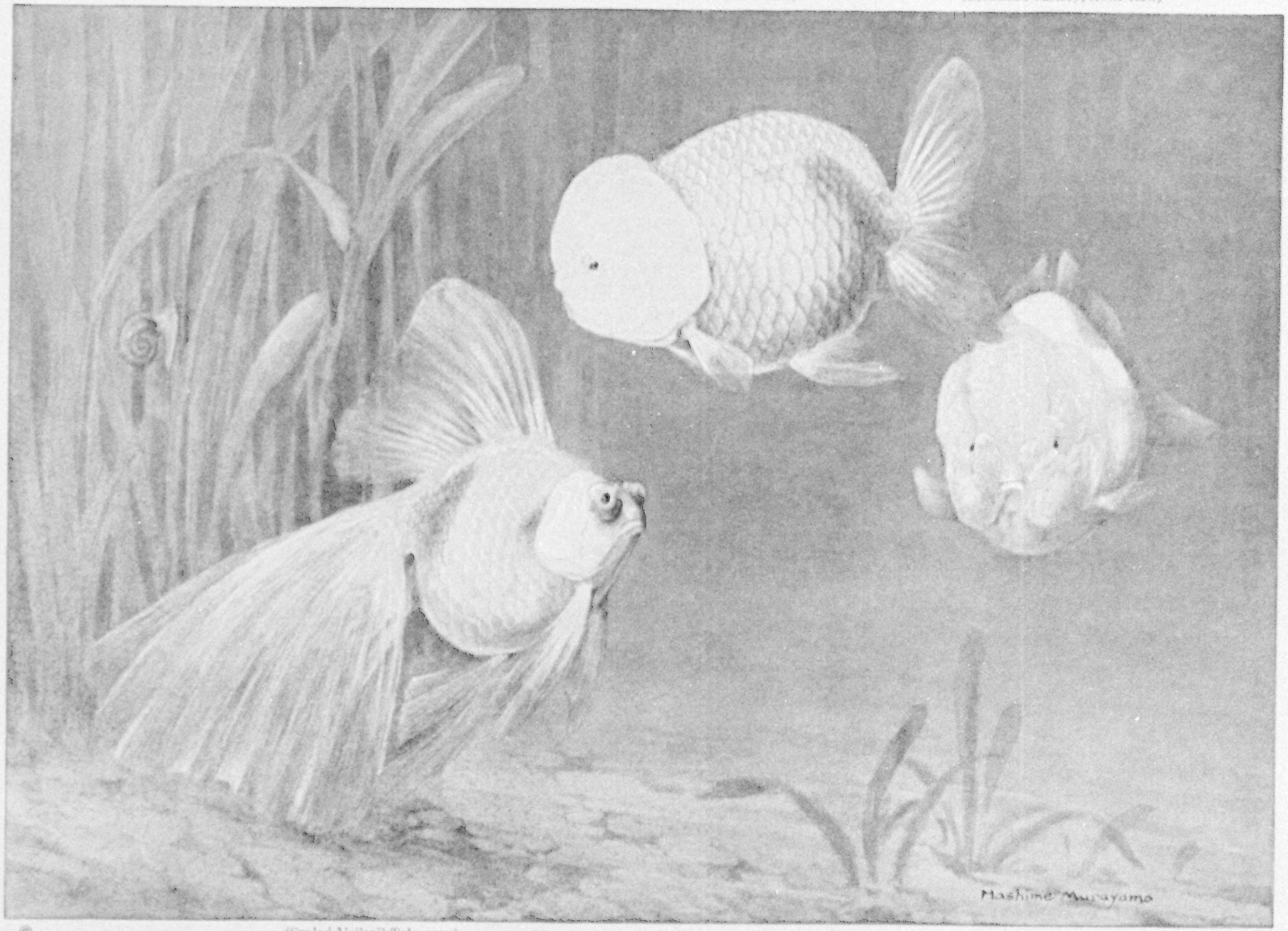


© (Celestial Telescope) (Old Style Scaleless Telescope) Painted by Hashime Murayama

A FISH THAT DEVELOPED A DIAPHANOUS GARB

The so-called "scaleless" goldfish have scales which are transparent. Their coloring runs the gamut of a débutante's wardrobe—from a deep, rich red to blue, purple, lavender and fantastic combinations that suggest ultramodish calico prints. The term "Telescope" also is misleading. The eyes are not farsighted; they are extremely shortsighted. Frequently these fish injure or blind their protruding, myopic eyes by swimming against hard objects.

(Lionhead) (Lionhead variety, front view)



© (Scaled Veiltail Telescope) Painted by Hashime Murayama

AN ARISTOCRAT AND A VEILED LADY OF THE GOLDFISH BREED

Some fanciers account the Japanese Lionhead the highest development of the gentle art of goldfish breeding. To the layman it appears more bizarre than some other beautiful types. The Veiltail Telescope combines Japanese, Chinese and American-bred features. It has a double caudal fin which is very broad and of the most delicate, filmy texture. The short, deep body emphasizes this fin spread.

(Common Goldfish)

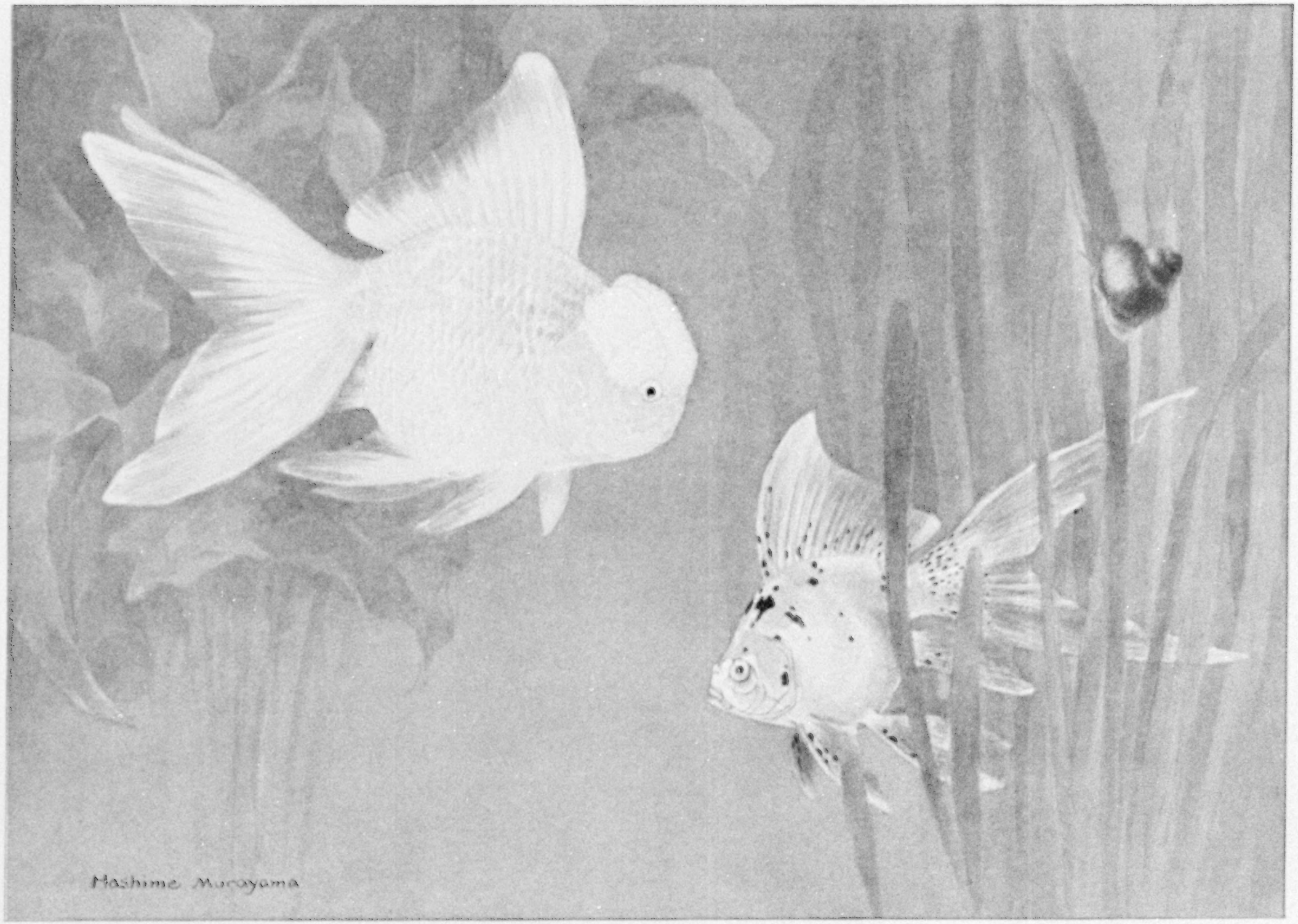
Painted by Hashime Murayama

©

THE MOST UNIVERSALLY FAMILIAR FISH IN THE HOME

The goldfish is perhaps the most widely used of all ornamental creatures. It ranks first among animals of earth or sea in the number and distinctiveness of the varieties produced by cultivation. The wild ancestor of the cultivated goldfish is plain and comparatively colorless. It still abounds in a wild state in its ancestral home, China.

(Oranda)



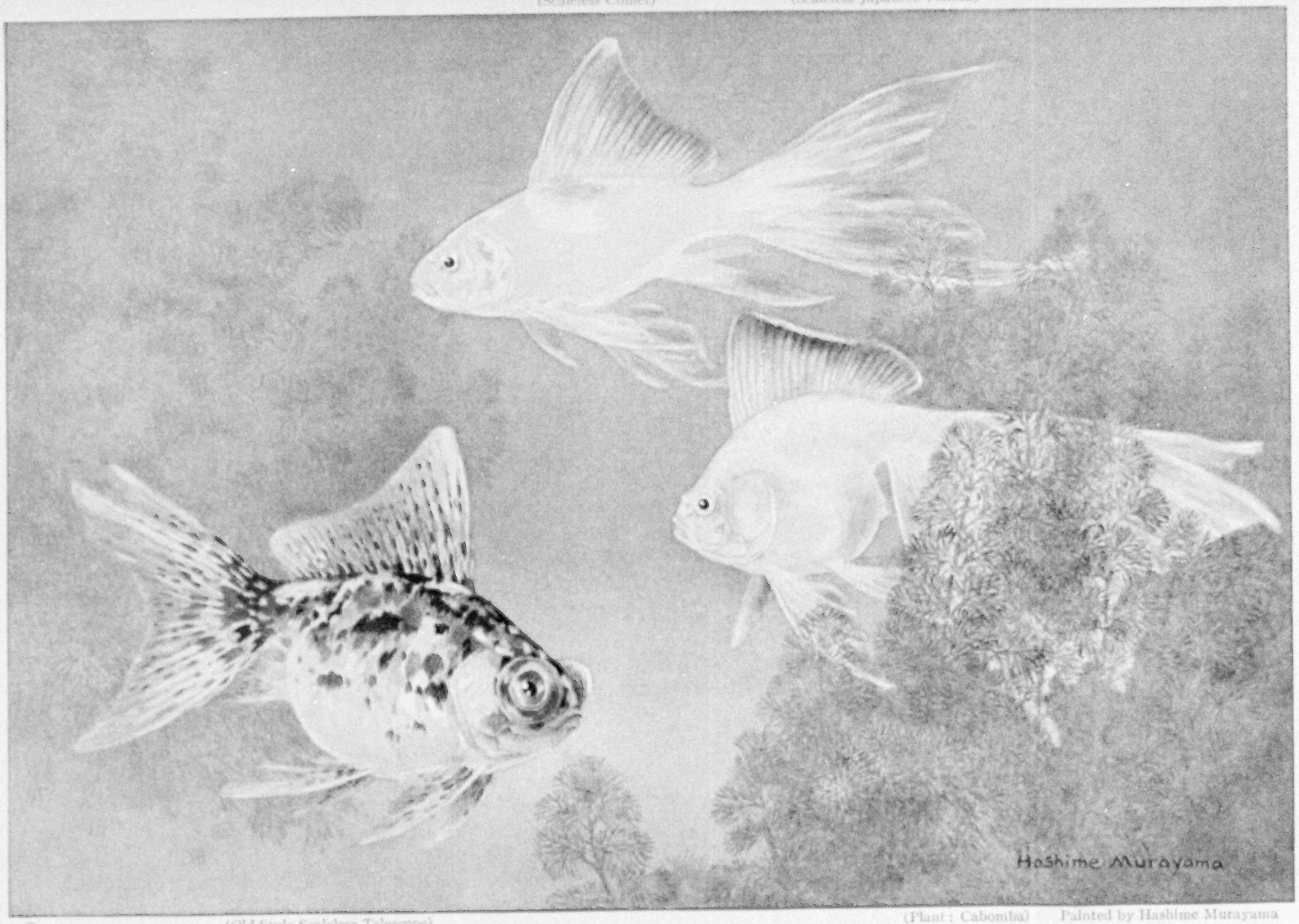
©

(Scaleless Nymph) Painted by Hashime Murayama

TWO REMARKABLE RESULTS OF GOLDFISH CULTIVATION

The Oranda, one of the largest of the goldfishes, was obtained by crossing the Fringetail and the Lionhead. It was produced in Japan and, although called by the Japanese the Dutch Lionhead, it has no connection with Holland. The caplike mass above the eyes shows its Lionhead derivation. The scaleless Nymph is an aquarium beauty of graceful, forked tail fin and exquisite color.

(Scaleless Comet) (Scaleless Japanese Veiltail)

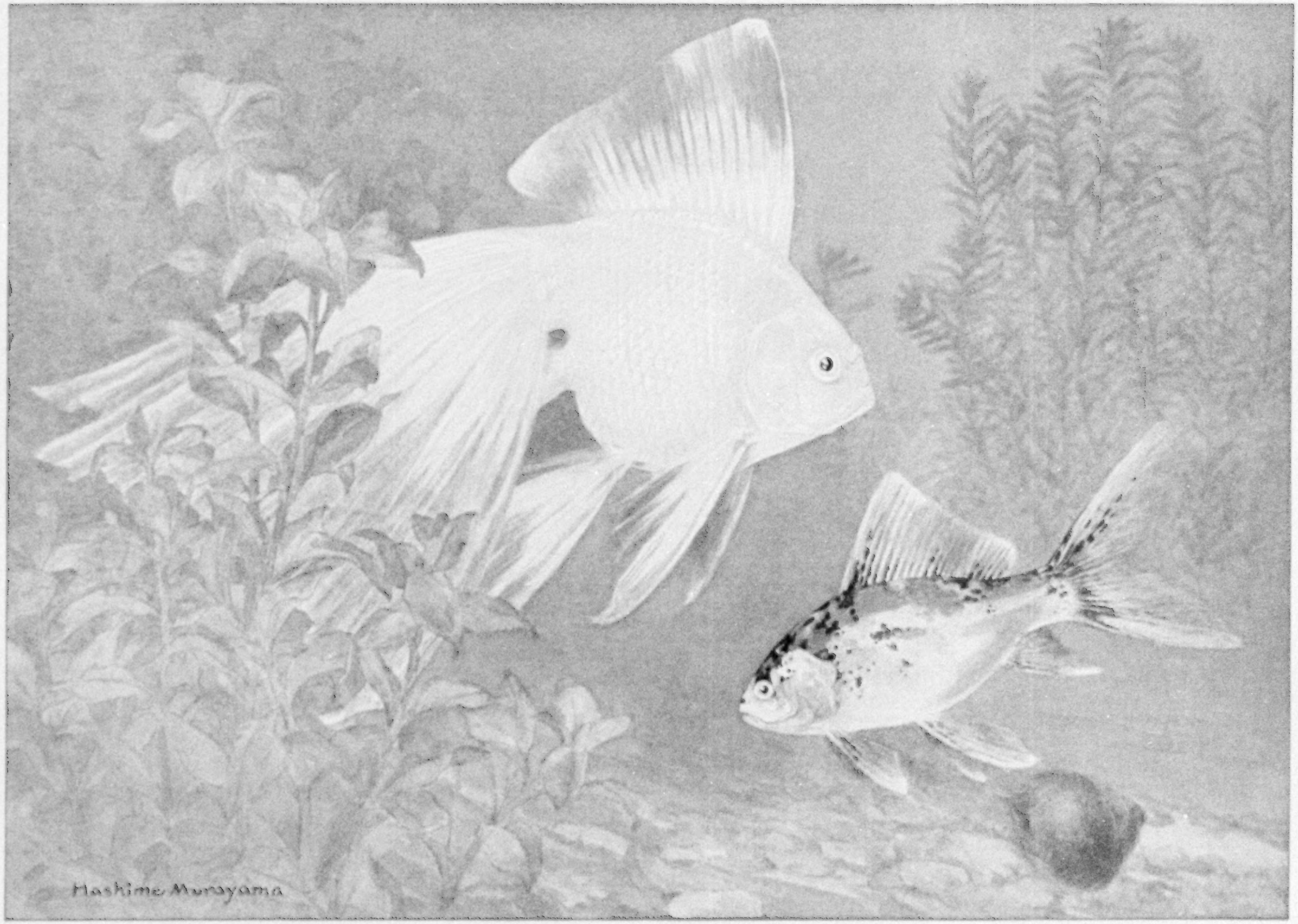


(Old Style Scaleless Telescope) (Plant : Cabomba) Painted by Hashime Murayama

RAINBOWS OF THE UNDERWATER WORLD

The Scaleless Comet justifies its name in its suggestion of swift action. If the goldfish were to hold a swimming meet it would win prizes for speed and grace and would be a runner-up in the beauty stakes. The Veiltail is a refinement of the Fringetail. The Telescope fish which attain the striking color combinations here shown are popularly known as Calico goldfish.

(Scaled Veiltail) (Plant: Anacharis)

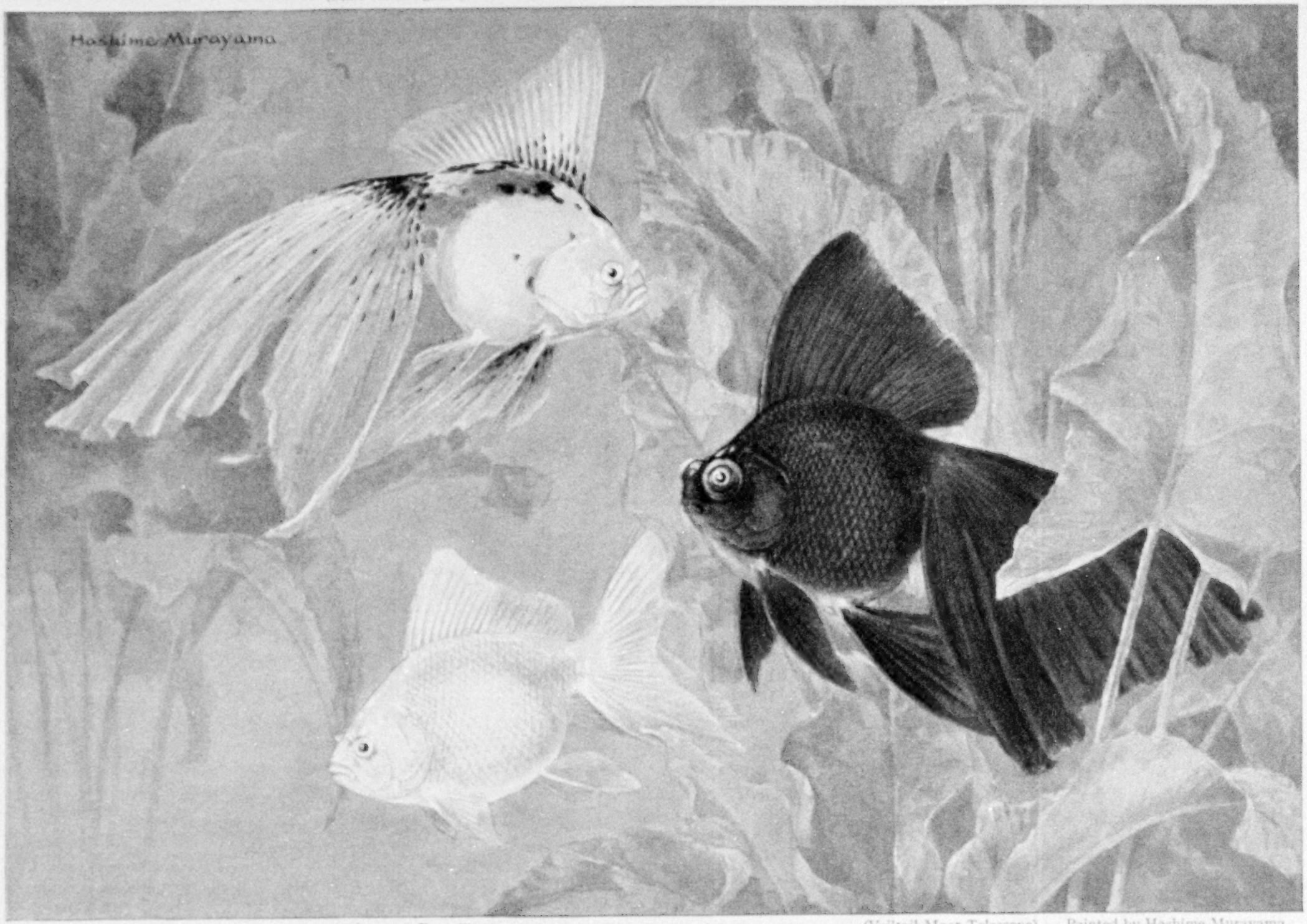


© (Plant: Ludwigia) (Shubunkin) Painted by Hashime Murayama

NEWCOMERS IN THE AQUARIUM FRATERNITY

The Shubunkin almost belies the name of goldfish, and many examples are entitled to be so called only because of their goldfish ancestry. It came into existence only at the beginning of this century, as the result of Japanese efforts to produce a fish of simple form and variegated color. The Veiltail, likewise, is a recent variety, modified from the Fringetail.

(Scaleless Fringetail) (Plant: Spatterdock)



© (Common Fantail) (Veiltail Moor Telescope) Painted by Hashime Murayama

A PATRICIAN AND TWO YEOMEN OF THE TANK

The Veiltail Moor Telescope is a rare, precious gem among goldfish. In a thoroughbred type black pigment covers the entire body and fins with a velvety sheen; even the iris and the exposed portion of the eyeball are sometimes black. The Scaleless Fringetail and the Common Fantail are familiar household "pets."

stems of a reddish hue and the color extends to the lower sides of the leaves.

Water Seedbox, a species of Ludwigia (see Color Plate VII) from South America, is so named for the peculiar capsules in which its seeds are produced.

The original water-color paintings, about twice the size of the reproductions in this number of THE GEOGRAPHIC, were made from carefully selected living fish, some in the aquarium of the Bureau of Fisheries, others at the hatchery of a well-known fancier in Philadelphia.

Mr. Murayama, the Japanese artist, by patient study and with consummate skill, has reproduced not only the form and color, but the very spirit of the different varieties of goldfish.

COMMON GOLDFISH—WAKIN

(For illustration see Color Plate IV)

Under the name of Common Goldfish, there is recognized in America the variety whose form has departed least from that of the wild fish. The designation is not entirely satisfactory, and it may be desirable to adopt, as a distinctive term, the name Wakin, applied by the Japanese to the simplest and most primitive of the varieties cultivated in their country. In view of the influence exerted by the Japanese on modern goldfish culture and the attractive characters implanted in the goldfish by Japanese breeders, it is not inappropriate to adopt names bestowed by them, as has been generally done in several cases.

This variety, in its simplest form, is similar in shape of body and in shape and size of fins to the wild fish. The color is most variable, and it is remarkable that a fish presenting such a wide range of color should have come from the original dull-green form. We have seen, however, that the wild race has a tendency to produce yellowish or whitish individuals. From these latter, by selective breeding, have been developed, by infinite patience and through long years of experimentation, the Common Goldfish of to-day.

While red is the predominant color and may uniformly cover the entire body and fins, it is often associated with white and black. White, silver, pearl, gray, bronze, brown, gold, and other shades also may occur, alone or in combination, and yellow, orange, and other colors may be found.

The Wakin exceeds all other varieties in size. It normally reaches a length of from 6 to 10 inches, but may attain 15 or 16 inches. Under favorable conditions, in ponds, it may attain an age of 20 years. This is by far the most numerous variety bred in the United States, and is the only type known to many people. It presents most of the color phases that are met with in the more highly cultivated varieties, and, by reason of its beauty and hardiness, answers the ordinary public demands.

From time to time many of these fish have found their way into open waters by the breaking of dams, the overflowing of ponds, or the deliberate act of man. It may readily be understood that in such an environment, where the struggle for existence is keen and where other fishes have either means of defense or are provided with protective coloration, so brilliant a creature as a goldfish becomes a shining mark for all kinds of enemies, and its elimination goes on at a rapid rate.

If it exists long enough to breed, a particularly heavy mortality is almost certain to befall the more highly colored young, and it is only a question of a few generations before all the progeny that remain of a pair of colored fishes are the dull-colored ones.

COMET GOLDFISH

(For illustrations see Color Plates I and VI)

This type of goldfish is frequently called Japanese, but there is no evidence that it originated in Japan and it is disclaimed by the Japanese authorities. On the contrary, there is reason to believe that it is an American product, and may have originated about 1880, in the Government fish lakes, now filled in, that existed for many years in The Mall, near the Washington Monument, in the National Capital.

Quite possibly it came into existence independently elsewhere about the same time or earlier, and a pioneer American goldfish breeder, Hugo Mulertt, has stated that he first produced and named it in the summer of 1881, when a long-tailed comet was in the sky. The form does not appear to have been the result of selective breeding, but may have originated as a sport from common Japanese stock.

The variety, with modifications, has been firmly fixed by American fanciers. The name Comet is applied to a variety with an elongated, moderately compressed body and long, flowing fins. The dorsal fin is carried erect, the pectorals and ventrals droop, the anal is single, and the simple caudal, which streams straight backward, is broad, elongated, and moderately or deeply forked.

Among all the goldfish varieties, none surpasses the Comet in rapidity and gracefulness in swimming. When to these qualities are added beauty of coloration, hardiness, ability to endure northern winters out of doors, and susceptibility to being bred in either ponds or aquaria, the Comet becomes one of the most striking and popular species.

The form of this breed, together with the possible retention of a quality of its wild ancestors, has made of the Comet a great jumper, so that aquaria or other vessels in which it is kept must be covered with a wire-mesh screen.

The Comet occurs in both scaled and scaleless varieties, the latter, as elsewhere explained, being not actually destitute of scales, but having scales that are so thin and transparent as to be practically invisible (see text, page 381). A

Photograph by Kiyoshi Sakamoto

SCOOPING YOUNG GOLDFISH FOR SELECTION

type of Comet most highly prized in America is scaleless, has a sharp nose and a straight and wide-spreading caudal fin that is as long or longer than the remainder of the fish, and a rich blood-red body color, with white fins. A strain of Scaleless Comets, described as "wonderful, . . . of deep oxblood red color," was bred by American fanciers at one time, but is reported to have been lost about a dozen years ago.

FRINGETAIL GOLDFISH—RYUKIN

(For illustrations see Color Plates I and VIII)

The Fringetail variety of goldfish is distinguished by an extraordinary development of the tail fin, which is double and as long as the fish and may even be almost or quite twice as long. It forms a great draperylike mass, which falls into graceful pendent folds so ample that, if properly applied, they would completely cover the body.

The posterior margin of each half of the caudal may be moderately or deeply forked, constituting a subvariety known as the Swallowtail or Ribbontail, or it may be only slightly incised, constituting the Veiltail or Broadtail.

This variety has reached a very high degree of cultivation among the Japanese, who call it the Ryukin, after the Ryu-Kyu or Lu-Chu Islands, lying between Taiwan (Formosa) and the mainland of Japan. The name may suggest the origin of the breed or the route by which it entered Japan. Sent out from Japan many years ago, it is now known, admired, and bred on all the continents. In America it has received the special attention of amateurs and has attained a perfection of form and color never surpassed and seldom equaled elsewhere.

Along with the remarkable caudal fin, which in the Fringetail attains a more luxuriant growth than in any other variety, there goes a high development of the other fins, whose size, shape, and texture serve still further to distinguish this fish.

The dorsal fin is high, long, and wavy, its posterior rays reaching beyond the base of the caudal. The paired lower fins are very long and pointed and hang gracefully, the pectorals far overlapping the ventrals and the ventrals extending far beyond the insertion of the anal fin. The anal is double and its vertical base is below the two parts of the caudal, while its tips may reach to half the length of the caudal. The Fringetail is still further distinguished by a short, deep body, a strongly arched back, and a bulging abdomen.

The Japanese Fringetail is conspicuously scaled. By crossing with scaleless fish of Chinese origin, American fanciers have produced a Scaleless Fringetail that is larger and excels the Japanese stock in beauty of color and fin development.

A variegated coloration, in which a brilliant red may predominate, characterizes the best breed of Fringetails. The richness of the red color is not exceeded in any other variety and is often embellished by a metallic iridescence on both body and fins. A white mottling often occurs, and in the scaleless type the iris may be

Photograph by Kiyoshi Sakamoto

EQUIPMENT USED IN GOLDFISH CULTURE IN JAPAN

The dark weedlike things held by the man at the left are sun-dried willow roots, which are placed in the ponds and on which the goldfish begin to lay eggs at the end of March each year.

black; black and blue areas may be present (as in the specimen represented in Plate VIII).

The Fringetail, or Veiltail, of select breed may be regarded as the acme of beauty, grace, and elegance among goldfish, the climax of goldfish culture, satisfying all the requirements of fastidious amateurs and the general public. The late distinguished Professor K. Mitsukuri, of the Imperial Tokyo University, an authority on the goldfish of his native land, used to liken a high-grade Ryukin of rich coloration, swimming leisurely in the midst of its long, flowing, graceful drapery, to a Japanese court lady of olden times, dressed in a long, sumptuous robe and moving with sedate grace and dignity.

VEILTAIL GOLDFISH

(*For illustrations see Color Plates VI and VII*)

The Veiltail, or Broadtail, is a refinement and improvement of the Fringetail. It came into existence in America less than twenty years ago and proved very popular among certain fanciers, who gave it precedence over the Swallowtail form and confined their attentions to it.

The shape of body and excessive fin development are as in the Fringetail. The dorsal fin is high, stands very erect, and arises far forward on the back. The exuberant caudal fin hangs in regular lines and folds. Both scaled

Photograph by Kiyoshi Sakamoto

AN OSAKA GOLDFISH VENDER'S WOODEN BOXES OF "GOODS"

He is sorting the fishes according to size and value, just before going to the streets to announce his fish with a cry, "O, Kingyo-e!"

and scaleless forms occur. The colors are as in the Fringetail.

NYMPH GOLDFISH

(*For illustrations see Color Plates I and V*)

Under the fanciful name of Nymph, American goldfish fanciers recognize an attractive variety which is essentially a sport of the Fringetail. It is a Fringetail which has failed to develop the complete characters of that variety and has partly reverted to the form of the more primitive fish from which the Fringetail was developed. The Nymph, however, may be produced deliberately by crossing a Fringetail and a Comet.

The essential feature of the Nymph is a single caudal fin, along with which go a short, deep, thick body; a high, erect dorsal fin; long, pendent pectorals and ventrals; and a single anal, together with the beautiful coloration of the Fringetail.

The tail fin is like that of the Comet—that is, non-drooping, deeply forked, and fully as long as the head and body combined. Both scaled and scaleless forms occur and the variety makes an attractive addition to an aquarium.

FANTAIL GOLDFISH

(*For illustration see Color Plate VIII*)

The Fantail Goldfish is the commonest and least expensive of the fancy goldfish bred in the United States. Being hardy and comparatively easy to raise, and having an attractive shape and beautiful coloration, it is in great demand for stocking house aquaria, fountains, and pools.

The length of body ranges from moderate to short, without exhibiting the distortion of the caudal peduncle or the abrupt spinal curvature at the base of the tail that so many of the short-bodied forms have. The body is always fully scaled, the eye is small, the dorsal fin is high and erect, the anal fin is double, and the broad but not very long caudal fin is separated vertically into two distinct parts, which never droop, but extend straight backward and may be deeply forked.

The Fantail Goldfish resembles the Fringetail, but its caudal fin is never longer than the fish itself and never falls into graceful folds that characterize the Fringetail variety. It has the same showy, brilliant colors as the Fringetail and is a lively aquarium fish.

VEILTAIL OR BROADTAIL TELESCOPE GOLDFISH

(*For illustrations see Color Plates II and III*)

On the Veiltail Telescope was developed the Veiltail type of the Fringetail.

The double caudal fin is very broad and of most delicate filmy texture, the folds are regular, and the free edge is slightly curved. Both scaled and scaleless forms of Veiltail

Photograph by Kiyoshi Sakamoto

AT A JAPANESE GOLDFISH DEALER'S SHOP: NOTE THE PRICE LABELS

It is estimated that the yearly production and sale of goldfish in Japan exceeds 20,000,000 with an aggregate value of $500,000. They vary in price, according to the rarity of the specimen, from half a cent to $150 each.

Telescopes occur and present an interesting combination of Japanese, Chinese, and American bred characters.

American fanciers, crossing the Japanese Scaled Fringetail with the Chinese Scaleless Telescope, have produced varieties which by some persons are considered the crowning achievement of goldfish culture in the United States. They are distinctive and have become among the most important of the fancy breeds cultivated in this country.

From the Japanese fish there have been retained in the American varieties the short, deep body, and long, broad, drooping, double tail, while from the Chinese parent stock have come the peculiar protruding eyes and calico colors. Scaled and scaleless species have resulted from the same cross-breeding, and these two forms, with their characteristic shape of body, eyes, and fins, have now become fully established.

The Veiltail Telescopes, of both scaled and scaleless types, may have a red body with varying amounts of white or silver. The attention of fanciers, however, is usually focused on the production of the scaleless forms of calico colors in fantastic pattern. Blotches or spots of irregular size and shape, in shades of lavender, blue, red, yellow, and brown, together with black and gray, may be scattered all over the body, and small red and black spots may occur on the white fins.

As in other varieties in which there is a strain of the Chinese Calico Telescope, American fanciers strive for fish of uniform blue color—one of the rarest and most valuable of goldfishes.

CHINESE TELESCOPE GOLDFISH

(For illustrations see Color Plates II and VI)

The examples represented in the two color plates are among the simplest types of the various kinds of Telescope Goldfish raised in America. The attraction which such fish have for many people is not wholly because of the abnormal development of their eyes, but may rather be in spite of it and because of other features which offset the monstrosity.

The whole Telescope breed of goldfish is characterized by an elongation of the eyeballs in the direction of the optic axis, with the result that the eyes project or protrude either laterally or forward beyond the surface of the head, the degree of protrusion and the shape of the eyeballs being variable. Whereas in normally developed goldfish the cornea covers the entire exposed portion of the eyeball, in the monstrosities developed by the Chinese the cornea occupies only a small part of the exposed eyeball.

The peculiarity of the eyes does not show in very young fish and may not develop for several years, although it usually appears in from three to six months. Sometimes only one eye protrudes, the other being normal.

In this variety, both distinctly scaled and transparently scaled forms occur, and the body shape, fin development, and coloration have quite a range.

In general the body is short and rounded, the back is broad, the head is short, the large eye encroaches on the snout, and may even project as far forward as the end of it, and the size of the fins is moderate. The dorsal fin is

Photograph by Kiyoshi Sakamoto

THE MOST VENERABLE GOLDFISH IN JAPAN, NINETEEN YEARS OLD

It resides in one of the Yanagisawa goldfish ponds, under the control of Count Yanagisawa, at Koriyama.

rather high and the caudal is double and non-drooping.

The color of individual fish may be red, white, or both, but the most striking and most desirable coloration for this variety is the combination of various shades in irregular blotches, which gives rise to a type having the distinctive name of Calico Goldfish. The Calico fish frequently shows colors that stamp it with rare beauty; striking combinations of black, white, purple, yellow, orange, red, and gold occur; the fins may be black, red, white, or red-spotted; and the eyes may be white, black, or red.

With the further development of the caudal and other fins, the variety of early-style Chinese Telescope here illustrated passes into the Fringetail or Veiltail Telescope.

CELESTIAL TELESCOPE GOLDFISH

(For illustration see Color Plate II)

Most persons who see the Celestial Telescope for the first time are likely, from its grotesque appearance, correctly to assign to it a Chinese origin. It is a Telescope whose eyes have departed still further from the normal and have turned heavenward.

The variety has been known in America for many years and the name Celestial was first given to it by American fanciers. The distinctive eye characters develop originally as a lateral protrusion, as if the fish were to be a plain Telescope; later the eyeballs, which are usually spherical, gradually turn upward and assume a permanent star-gazing position.

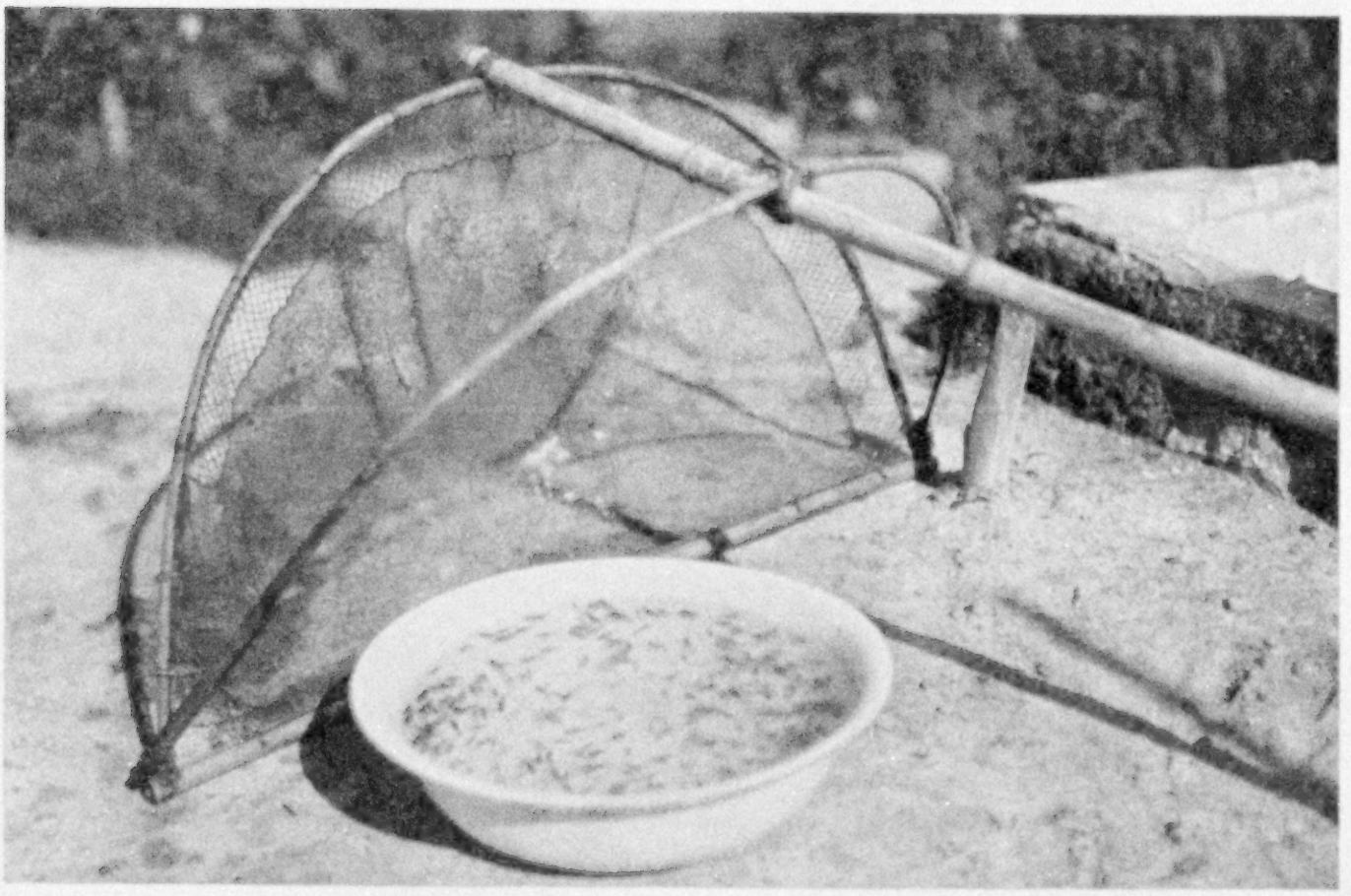
Other features of this variety are a short, rounded, well-scaled body; a short head with much abbreviated snout; no dorsal fin; a double caudal fin with the lateral lobes widely spread; and a variable coloration. The example herewith depicted, from a goldfish-breeding establishment in Philadelphia, is of an iridescent golden-red color.

The Celestials often swim obliquely, with the head upward, and their movements are slow and labored. Their vision is defective and they are lacking in vitality, being the most difficult of all goldfish to keep and rear.

VEILTAIL MOOR TELESCOPE GOLDFISH

(For illustration see Color Plate VIII)

One of the rarest, most highly prized, and most striking of all goldfish bred in America is the form known among fanciers as the Veiltail Moor Telescope, or Veiltail Black Telescope. Black areas often occur in the skin of many kinds of goldfish in combination with red and white, and afford a pleasing variety and contrast, although fish so marked are not ordinarily highly esteemed by fanciers; but when the black pigment covers the entire body and fins with an intense, uniform, rich velvety sheen, and when this is accompanied by the shape of body and the development of



Photograph by Kiyoshi Sakamoto

BABY GOLDFISH 20 DAYS OLD

fins and eyes that characterize the popular Veiltail or Fringetail Telescopes, there is presented a truly wonderful type that would be a center of attraction in any aquarium.

Even the iris and the exposed part of the eyeball are sometimes black, although the median line of the belly is blue-gray or golden. In this form we have the condition known as melanism, which is the antithesis of albinism.

In pure breeds, the blackness is permanent; but many fishes that are originally "Moors" eventually lose their black pigment and become golden. It is said to be the experience of fanciers that the largest percentage of blacks may not appear in the progeny of two black parents, but may result from the mating of a black fish with a deep-red one. The Moors are always conspicuously scaled, and in the less perfect, but nevertheless very attractive, examples the margin of scales of the abdomen may be golden or bronze.

It is noteworthy that the pure black goldfish always has "telescopic" eyes. Efforts to produce a black fish of other varieties have failed.

JAPANESE LIONHEAD GOLDFISH

(*For illustration see Color Plate III*)

The extraordinary degree to which the production of goldfish varieties may be carried in the hands of skillful cultivators is well shown in the case of the Japanese Lionhead. In certain respects it is held by some fanciers to represent the highest perfection of the gentle art of goldfish breeding, although its appeal may be less to one's conception of beauty than to one's ideas of the grotesque or bizarre.

This variety, which has been cultivated in Japan for many years, has been known in the United States for at least thirty years, but has never been produced on an extensive scale. Among American fanciers the fish is usually called the Japanese Lionhead, but various other names have from time to time been applied to it, such as Japanese Hooded Goldfish, Hooded Globe, Buffalohead, and Korean Goldfish.

The last name, used also in Japan, is suggestive of the variety's possible origin or may be an allusion to its surmised route from China to Japan.

Other names employed in Japan, which have become more or less familiar to Americans, are Shishigashira (Lionhead), Maruko (Round Fish), and Ranchu (Holland Worm). Inasmuch as the name Lionhead may appropriately be given to at least three varieties, a more distinctive designation is desirable, and Ranchu is suggested.

The Japanese Lionhead may readily be recognized by its reduced length and increased depth and breadth of body, by its broad, short head, almost completely covered by a wartlike growth, by the absence of a dorsal fin, and by its moderately developed double caudal fin, with the lower lobes having a tendency to spread horizontally.

The general shape of the body is nearly globular and the outline of a median cross-section would be an almost perfect circle. The thickening of the skin of the head, owing to the enlargement of the papillæ and the proliferation of the epithelial cells, amounts virtually to a benign tumor.

The manner in which the growth projects beyond the general outline of the fish is shown

in the upper figure, and the grotesque appearance that is often produced is well illustrated in the lower, front-view figure, in which it is difficult to recognize a fish's physiognomy. The growth may encroach on the eyes to such an extent as to affect vision, while respiration may be impaired by interference with the movements of the gill covers and with the passage of water through the gill openings.

The colors of the Lionhead are red, golden, and pearly white in varying proportions; the entire body and fins may be red and the head bright-red, pink, creamy, or white; the body may be white and the fins and head red; the back and sides may be white, with regularly placed single scales of bright red, and the head pink; or the body and fins may be variegated red and white.

The swimming movements of the Lionhead are far from graceful. The globular form and the absence of the dorsal fin impair the swimming powers and diminish the ability of the fish to maintain an equilibrium; examples sometimes met with are unable to keep in a normal position and regularly swim on the back or vertically with the head downward.

The Lionhead, when full-sized, is about six inches long, including the caudal fin, and may reach a length of seven or eight inches. The peculiar excrescence on the head appears when the fish is two years old and continues to grow as the age increases. This variety is delicate and difficult to handle, but its remarkable features make it a favorable subject for the attention of amateurs. It has been recorded that in the early years of its introduction in America amateurs were sometimes known to pay for fine examples "twenty times their weight in gold."

A variety of the Japanese Lionhead obtained by crossing that form with the Dutch Lionhead was first produced in Japan about 1897. It has the general characteristics of the Japanese Lionhead as regards shape of body, absence of dorsal fin, and wartlike growth on the head, but all the other fins are longer and the double caudal is as long as, or longer than, the body and head and has the beautiful soft, wavy character of the Fringetail.

This variety, known among the Japanese as the Shukin, may be called the Fringetail Lionhead or Longtail Lionhead.

ORANDA—DUTCH LIONHEAD GOLDFISH

(*For illustration see Color Plate V*)

By the crossing of the Fringetail and the Lionhead, there was produced in Japan about 1840 a singularly striking variety of goldfish, to which the name Oranda Shishigashira (Dutch Lionhead) was applied. It never had any connection with Holland or the Dutch, but was so called because of the Japanese habit of ascribing to that source, or designating in that way, almost every new or strange object.

The introduction of this form into the United States was accomplished many years ago, and at Philadelphia and elsewhere it has been successfully bred. The name most commonly used in the United States is Oranda.

The characters of both parents are well developed in the Oranda. From the Fringetail has been derived the beautiful elongate fins, with the dorsal conspicuously high and the caudal broad and gracefully flowing; the caudal, which is double, may equal or exceed the length of the fish proper.

From the Lionhead has come the warty mass which may cover the entire top and sides of the head or form a cap above and behind the eyes.

The color of the Oranda may be plain or may show a wide range of variegation. A common type is a body white or silvery-white and red, with the warty growth white, creamy, pink, vermilion, orange-red, or variegated.

The Oranda is one of the largest of the goldfishes. When the variety first appeared, its length was only from 2 to 3 inches, but under the influence of cultivation it normally reaches a body length of 4 to 5 inches, with the caudal fin of the same length. The longest examples may have both the body and the tail fin more than 6 inches long.

SHUBUNKIN—CALICO GOLDFISH

(*For illustration see Color Plate VII*)

The Shubunkin almost belies the name of goldfish, and many examples are entitled to be so called only because of their ancestry. It came into existence as recently as 1900, and was the result of a deliberate attempt in Japan to produce a fish of simple form, but multivariegated, like some of the Chinese Demekins (see text, page 382).

To this end, Demekins with black dapples on a vermilion or purplish background were mated with Wakins blotched with red, black, bluish, and white. The small percentage of the original progeny that had the desired characters was interbred. The variety was finally established and some years later was introduced into the United States, bringing with it the Japanese name of Shubunkin, a reasonably close translation of which would be Calico Goldfish.

The principal characters of this variety are a rather elongated, compressed body; transparent scales; long, wavy dorsal fin; single anal and caudal fins, the latter deeply forked; and a highly variegated coloration of body and fins. The ground colors may be a mottling of red, yellow, blue, and purple, in variable proportions, with spots of black, white, red, brown, blue, purple, yellow, or other shades.

Occasionally the Japanese have produced a fish with a uniform purple color, quite unknown in either of the parent stocks. The original Shubunkins imported into the United States are said to have had comparatively small fins.

American goldfish fanciers have apparently improved their original strain by producing a race with somewhat longer fins.

The Shubunkin, which attains a body length of more than five inches, makes an attractive aquarium or pond fish and is hardy. It offers an opportunity to amateurs to develop still further color phases and combinations within its own variety and to implant its colors on other varieties.

LATVIA, HOME OF THE LETTS

One of the Baltic Republics Which Is Successfully Working Its Way to Stability

By Maynard Owen Williams

Author of "The Coasts of Corsica," "At the Tomb of Tutankhamen," "Through the Heart of Hindustan," "Russia's Orphan Races," etc., in the National Geographic Magazine

FIVE hundred years ago, when Riga ranked with Lübeck, Hamburg, and Bremen as one of the chief cities of the Hanseatic League, it had a bachelors' club, made up of men from out of town, called the Schwarzhäupter Gilde, or Blackheads. Their patron was Saint George, perpetually engaged in almost impaling a dragon. The sign of their society was a blackamoor's head. When they went to church they sat in stalls on the ends of which were carved big blackamoor heads.

After all these years, the guild still exists; their clubhouse, standing above the tiny stream from which the city took its name, is still one of the show places of Riga, and those barbaric carvings, which would look more at home in a minstrel show than in a church, still decorate the doors of their high pews in the Lutheran Cathedral.

Pry off one of these low-browed symbols, tip it back so that its pillow will be Lithuania and the lesser known of the Polish corridors, let its woolly pate rub against Soviet Russia, and its flat-nosed, thick-lipped face will run along the present boundary between Latvia and Esthonia (see map, page 405).

A rocky eyebrow reaches across toward the Great Munamägi in Esthonia, 1,063 feet high, the most prominent eminence in this part of the flat Baltic plain. The cheek-bones are formed of the Vidzeme (Livonia) plateau, between the Daugava (Western Dvina) and the Esthonian frontier. The Adam's apple of the slender throat is Riga, once a great industrial city larger than Stockholm, Christiania, or Copenhagen and now a thriving capital.

As I left the Alps, late in August, a well-known educator asked, "Where are you off to now?"

"Latvia," I replied.

His comment was more candid than professorial.

"I'll bite," he said. "Where *is* Latvia?"

His question approximated that of all persons with whom I spoke. They did not ask where my furs were or whether I thought reindeer milk would agree with me. But they wanted to.

IN A RIGA CAFÉ BEFORE THE HOUR FOR OPERA

Sitting in one of Riga's cozy cafés five days later, I realized how erroneous had been some of my own preconceptions. As I denied myself a third tempting pastry, light as a summer cloud, and the dark beauty—at another table—laid down her perfumed cigarette to regard me through her lorgnette, I wondered why I had bought emergency confectioner's chocolate on my way through Paris.

Beneath shaded lamps, light chatter rose after the hush during Massenet's "Élégie." New Riga was fortifying itself with dainties before going to its 7 o'clock opera. Serious dining would not begin until eleven, when the cabarets would take up the task of entertaining where café and "Carmen" left off.

Riga, but yesterday cluttered with barricades and cratered with shell-fire, now bustles with life so irrepressible that after the town cabarets have ceased to sparkle, at two in the morning, new Latvia goes out to Luna Park, in the once splendid Kaiserwald, to eat, drink, and be merry until the sun rises over the Stintsee and touches to flame the narrow lines of gold which divide into pockets the orange domes of the Greek Catholic Cathedral.

Latvia suffered worse from the war than did Belgium. In the Riga district alone, 24,000 buildings were completely destroyed; but Riga is still an unbelievably fine city. In the birthright of achieved freedom, the new capital got something the best of it. Already a splendid metropolis, with fine streets, ex-

Photograph by Carl Schneider

ENTRANCE TO THE HALL OF THE BLACKHEADS (SEE TEXT, PAGE 401): RIGA

Before the door are the figures of the Virgin Mary and Saint Maurice, while Saint George perches on its roof-tree and King Arthur on its clock. Upstairs in the Schwarzhäupterhaus, as it is familiarly called, there is an assembly hall walled in by expansive pictures of the former great. A windowless room in the basement houses the shield, boots, stirrups, and mail shirt of Gustavus Adolphus, a blue satin slipper of Anne, Duchess of Courland from 1711 to 1730, who evidently captured the fancy of these imperturbable bachelors, and numerous other relics.

cellent buildings, and a wonderful center-of-the-city park system, it had grafted on to it a more or less expensive government, with nine legations abroad and the most perfectly balanced budget in the world, though the means of balancing it would make a Blondin envious.

The wealth of Latvia is in its farms. Industry is almost dead; trade is reduced to a fraction of its former volume; yet Riga is a city of luxury, and the countryside which furnishes the wealth seems cheerless and poverty-stricken by comparison.

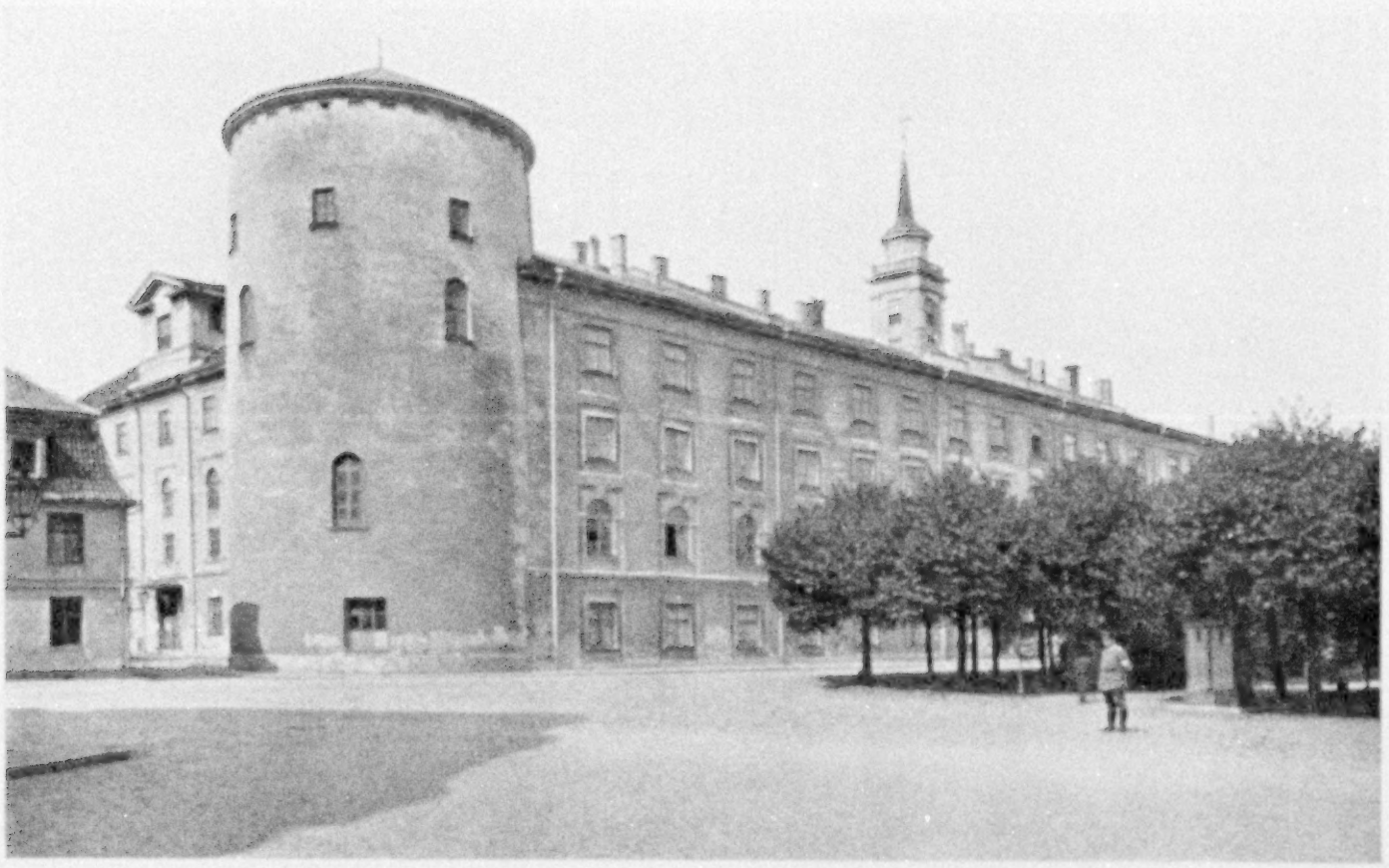
Ten years ago Latvia's largest city had four times as many industrial workers as there are now in the whole Republic. The quaint "Old Town," bristling with church spires, had become encircled by industrial plants which supplied Russia with a diversity of products. Now those chimneys give forth no smoke, hundreds of those windows are broken, and many of those factory walls lie in ruins.

The machinery was evacuated into Russia during the war and, furthermore, there are no markets in which competition with western Europe is possible.

The largest factory in Riga makes rubbers. If there was any place in the world last summer where there was a need for rubbers, raincoats, and diving suits, that place was Latvia; yet if the Provodnik factory in Riga worked at full capacity for a week, it would produce enough rubber goods to last Latvia and the surrounding countries for a year.

To rehabilitate the factories would not only flood the available markets with goods for which there would be scant sale, but would also flood Riga with communist laborers, whose presence in such numbers would menace the stability of the State.

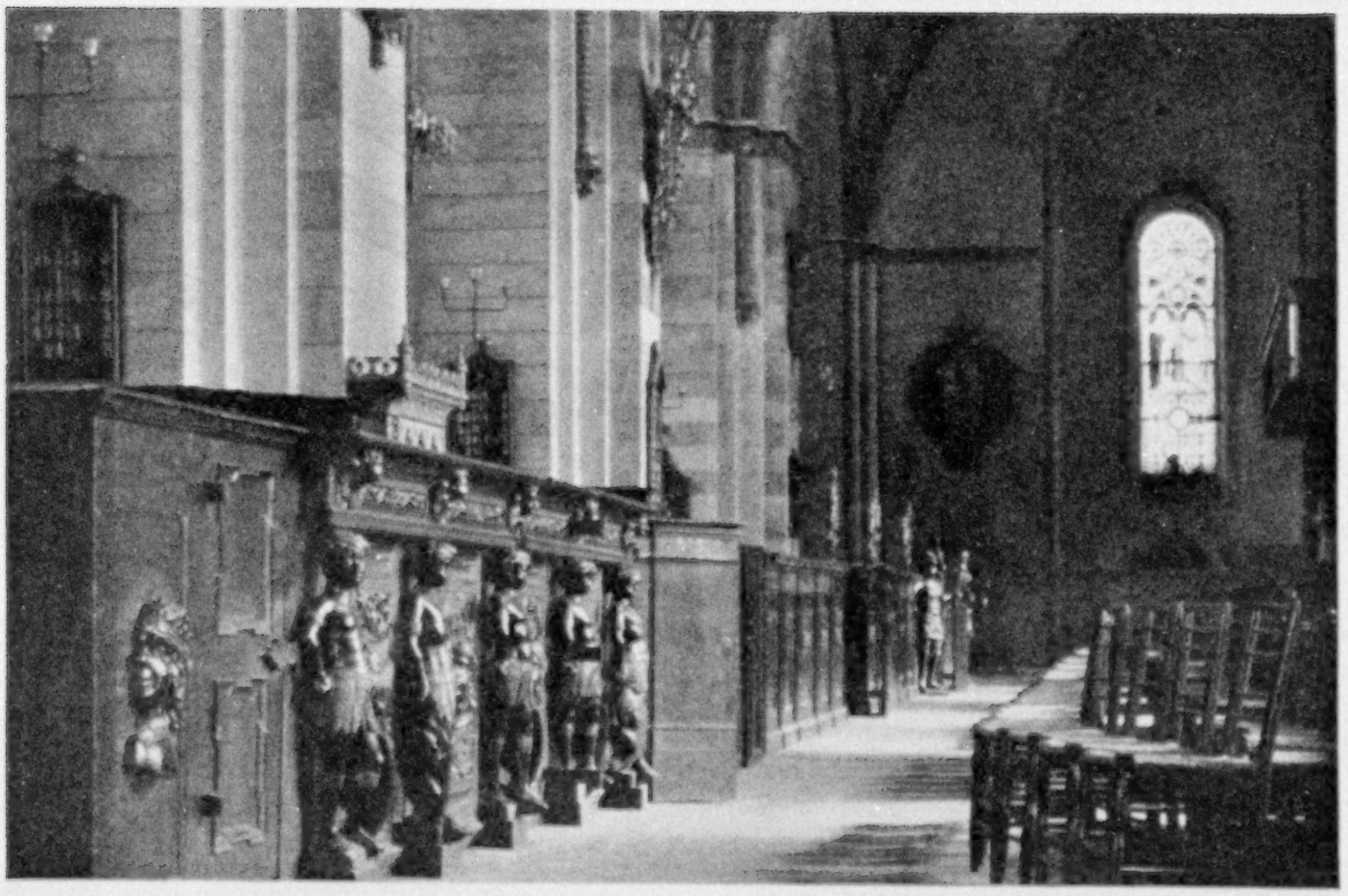
In Riga there is free import and export



Photograph by Carl Schneider

THE "WHITE HOUSE" OF LATVIA

The old Schloss of Riga, now the home of the President of Latvia, was erected in 1330 by the Teutonic Order, rebuilt between 1491 and 1515, and altered in 1682 and 1783.



Photograph by Maynard Owen Williams

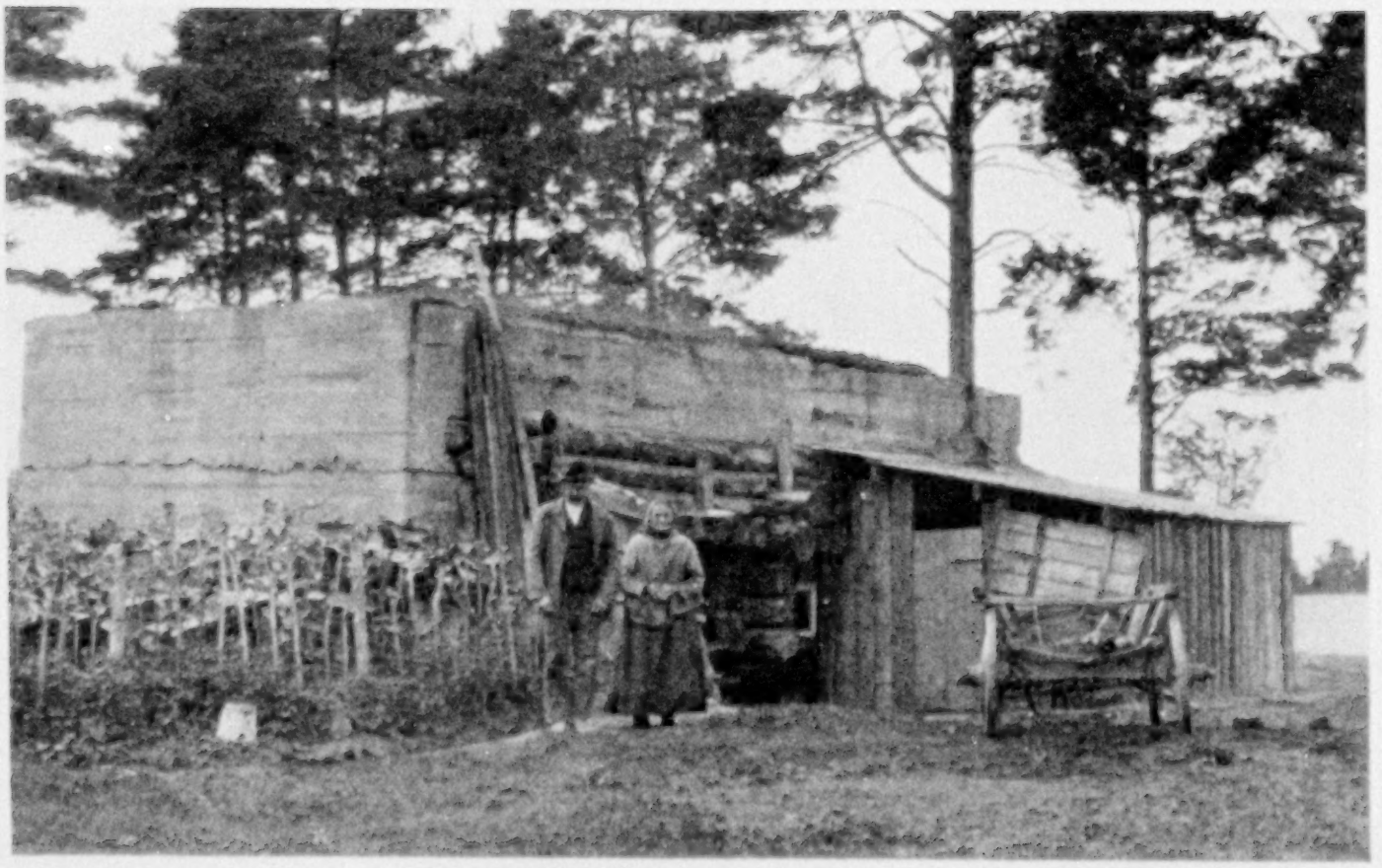
INTERIOR OF THE CATHEDRAL OF THE VIRGIN, IN RIGA

On the left of the aisle of this brick church, begun in 1211, are the pews belonging to the Blackheads, a society of bachelors of the better class who enjoyed considerable influence during the fifteenth century, with the kinky-haired Moor's head, their insignia, much in evidence (see text, page 401). This peculiar emblem of the order was probably adopted because Maurice, their patron saint, was usually considered a Moor.

Photograph by J. Reeksta

LATVIAN SOLDIERS ON THE ESPLANADE AT RIGA DURING A MILITARY COMPETITION

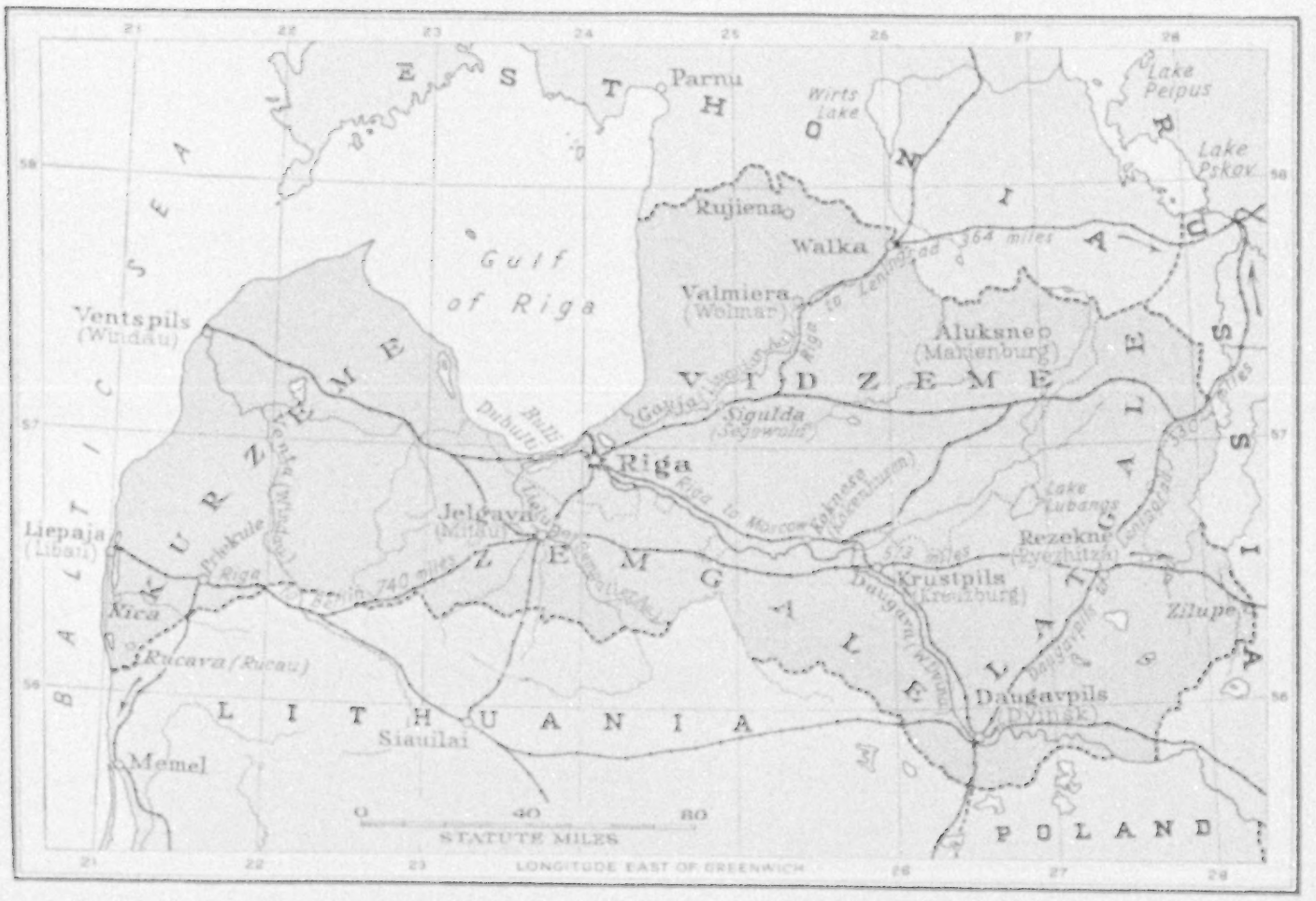
During the last eight years five wars have swept over the little Latvian nation. It is an easy matter to remember the military strength of the country. They are a nation of 2,000,000, with a standing army of 20,000 and 2,000 Boy Scouts.



Photograph by Maynard Owen Williams

AN OLD COUPLE LIVING IN A FORMER GUN EMPLACEMENT SOUTHWEST OF RIGA

Many of the small farmers, who formerly cultivated plots belonging to the Baltic barons, are now tilling their own soil. More than 19,000 of them to-day are raising flax, hay and vegetables, or cattle and bees on land which has been taken from the Russian Crown properties and from large estates (see text, page 424).



Drawn by Charles E. Riddiford

A MAP OF THE BALTIC REPUBLIC OF LATVIA

The boundaries of the new nation, which has an area about half as large as New York State and a population about equal to that of Philadelphia, roughly outline a recumbent blackamoor's head, with his kinky pate toward Russia, the profile thrust against southern Esthonia, the narrow throat at Riga, and the back resting upon Lithuania (see text, page 401). The place names are in the spelling now appearing on maps published by the Latvian Government. The more familiar German or Russian names in most instances have been given in parentheses.

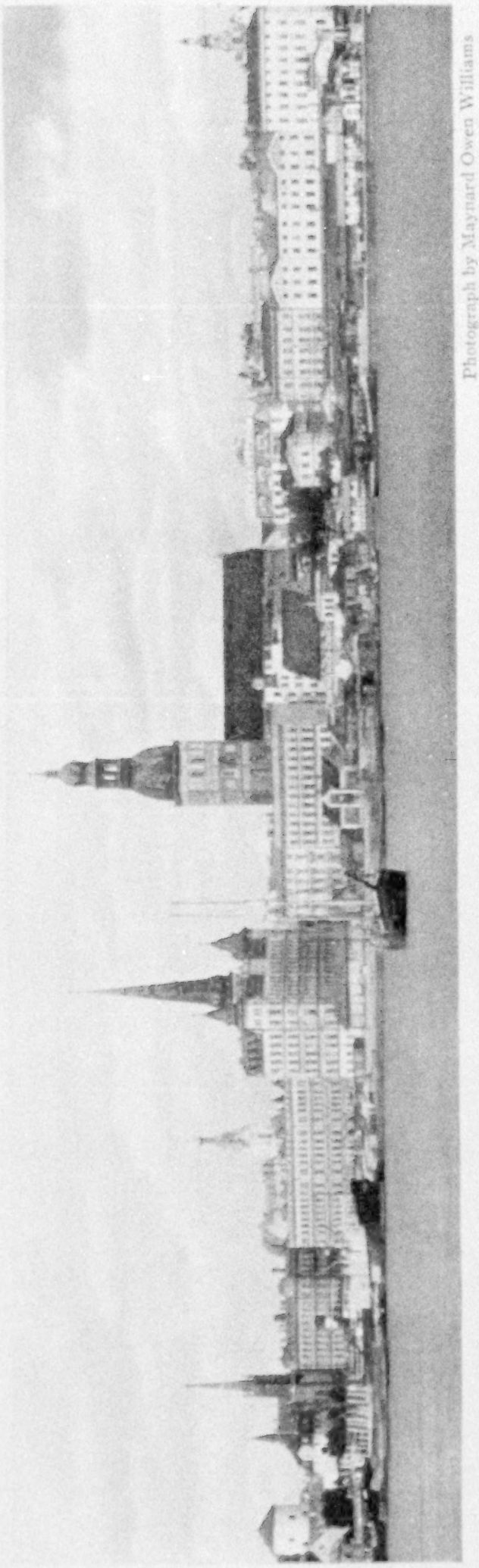
of gold and silver, and during my prolonged stay in Latvia the exchange rate did not vary a santime. In present-day Europe these two facts stand out like twin lighthouses marking a channel between dark and dangerous coasts.

In 1922 there were many things which one simply could not buy. An automobile for pleasure purposes was almost a curiosity. Food was cheap, but of poor quality. Drink was a memory and a hope. To-day the shops have everything one can ask for. When he has discovered the proper places, the traveler can dine better in Riga than in most European capitals. The wine card now reads like a reparations bill, interminably long and with exceedingly high figures.

Although the cost of taxis is three times what it is in Paris, your modern Lett thinks nothing of running down to the Strand in summer just for the cooling ride along the sand dunes beside the Baltic. After years of tossing on the stormy sea of war and uncertainty, Jack Lett is spending his money like a sailor ashore.

RIGA'S CONTRADICTIONS

Riga is a homelike city without an individual home; a fresh green city without a single private lawn, and with immaculate streets kept clean by women whitewings; a city of flower girls wrinkled with age and women "newsies" who seem better fitted to fireside gossip than to sitting out in the cold rain selling Latvia's surprising variety of newspapers and journals; of elevators in which only the favored ride; of ultramodern cabarets and lotto clubs that succeed where dance halls fail; of countless children and parks; of stylish, trim, silk-stockinged city women and knobby-ankled, stocky country women to whom dress is a matter of warmth and modesty; of splendid churches where the services are all held



Photograph by Maynard Owen Williams

THE SKY LINE OF RIGA FROM ACROSS THE DAUGAVA

At the extreme left is the tower of the Schloss, the home of the Latvian President, and at the right the tower of the Rathaus, or former city hall, built in 1750. Already the progressive and industrious Letts are making plans to harness the waters of the Daugava (Düna) as a hydro-electric remedy for the nation's shortage of coal

in German, and an equally splendid Opera where Wagner is sung in Lettish; of extraordinarily good portrait photographers and people who object to modern portraits and want each detail sharp, so that every hair, if not numbered, can be counted if necessary.

THE LATVIAN PRESIDENT'S UNIQUE FLAG

Strictly speaking, Riga is not a seaport, and because of this fact is closed to navigation for a few weeks in winter. Vessels drawing up to 22 feet find, in the midst of a flat, uninteresting coast, a narrow river up which they come for ten miles before tying up to the quay beside the cream-colored walls of the old castle (see page 403).

Having already served for 160 years, this ancient *schloss* was rebuilt while Columbus was trying to get Ferdinand and Isabella to finance his faith. Above one of the round towers there flies, not the flag of Latvia, with its red and white cross on a white field, but a white flag, quartered by twin bars of red, whose inner ends inclose two griffins supporting a shield on which they are repeated below a rising sun and three stars.

The griffin on the left is red on a silver field and stands for Kurzeme (Courland) and Zemgale, the two southwest provinces. The other griffin looks like the same thing seen from the other side of the fabric, being silver on red, except that it brandishes a dagger and stands for Vidzeme (Livonia) and Latgale. A garland of oak leaves and a ribbon with a white line between two red ones suggest the Latvian colors.

This intricate banner is that of the President of the Republic of Latvia, born November 18, 1918. Its presence on that ancient castle, dating back nearly 600 years, proclaims it to be the nation's White House.

The prosaic walls of Riga facing the Daugava assume a fairy splendor when sunset pulls them out

Photograph by J. Reeksta

SNOWCLAD RIGA FROM THE OPEN COUNTRY ACROSS THE DAUGAVA

Since the practical demise of Leningrad (Petrograd), Riga is probably the most important, commercially and industrially, of the erstwhile Russian towns on the Baltic.

Photograph by Maynard Owen Williams

THE NATIONAL OPERA OF RIGA FROM ACROSS THE CANAL WHICH DIVIDES THE OLD CITY FROM THE NEW

One real pride of the Opera from the Lettish standpoint is that German, French, and Italian have been abolished from the librettos and the words are now sung in Lettish (see text, page 409), a storm of national patriotism having overtaken the Letts, who have won their independence after having cherished it as a subject people for 700 years.

Photograph by Klio

THE OLD SCORNS THE NEW

Mother at the left sticks to her knitting and will have nothing to do with the new-fangled sewing machine. But she is not in touch with the spirit of the Latvian Republic, which is eagerly buying American-made plows, harvesters, tractors, and textile machinery. The new Government even went so far as to purchase tractors to lend out in war-devastated districts to facilitate reconstruction work.

from the background of lowering heavens and bathes them in quicksilver or gilds them with gold. Only then are they worthy of the towering spires which so distinguish the city's sky line (see page 406).

WOMEN CHECK THEIR HATS AT THE LETTISH OPERA

Under a blue sky and from the side, the Opera is so barnlike that one expects to read on its roof that "Children cry for it." But by late afternoon, when the sun has crept around to the classic façade, this building becomes a charming casket, of silver or gold, according to the light (see opposite page).

By moonlight these yellow walls turn marble and the colonnade in front reminds one of the Parthenon. The interior is rather plain, except for rich hangings on the side boxes and the decorations of the President's loge, in the center of the lowest of three horseshoe balconies.

Opera is well mounted here and well sung, although the Lettish words in "Tosca" or "Carmen," "Rigoletto" or "Faust" sound strange. There are too many consonants and they get in one another's way.

The principals are well cast and the chorus is large and, from a musical standpoint, well trained. The young

Photograph by J. Reeksta

THE HARBOR OF RIGA IN WINTER

The future holds great promise for Latvia, not because of its own resources alone, but because its three magnificent harbors provide logical outlets for the great wealth of the as yet unorganized Russia. Riga is ice-bound for only about four weeks during the year, and Liepaja (Libau) and Ventspils (Windau) for perhaps four days each. Dredging operations at Ventspils are now under way in order to make it possible for the largest ocean-going vessels to dock at its wharves.

MUSHROOM SELLERS IN THE ALEXANDER MARKET OF RIGA

THREE LATVIAN PRETZEL PEDDLERS

Photographs by Maynard Owen Williams

Photograph by Maynard Owen Williams

A FEW OF THE DOZEN OR SO VARIETIES OF BREAD OFFERED IN THE LIEPAJA MARKET

Various forms of bread, ranging from pea-shooter ammunition, through wedding and teething rings and ring-toss circles, to life-preservers, are ordinarily displayed. The balloon-tire variety in the photograph is Russian and tastes like a combination doughnut, educator biscuit, and hard-tack (see text, page 418).

women, with their naturally fine figures, have a charm which exceeds that of the chorus in Paris.

Tickets in Riga costs from four to eighty cents. Ladies must check their hats and men their coats, without charge or tips. When the curtain goes up, the doors are closed and the late comer misses an act. Evening dress is little indulged in and the "walk around" between the acts, though not showy, is pleasant.

LATVIA'S EARLY HISTORY IS LEGENDARY

Latvia modestly claims to be 5,000 years old.

Undoubtedly the Letts have inhabited their land from a very early date, but inasmuch as folklore, superstitious rites, and pagan ceremonies were more common than reading, writing, or arithmetic, their remote beginnings are lost in a fog of legend.

By the middle of the 12th century exact records came into use, and with the introduction of Christianity by Bishop Meinhard the history of Livonia begins to take definite shape. In 1201 Bishop Albert founded Riga and the next year founded the Order of the Brothers of the Sword, a group of northern Crusaders

Photograph by Klio

THE WHITEWINGS OF RIGA

These street-cleaning women do their work well, the thoroughfares and parks being maintained in perfect condition. In fact, all Latvia seems to be experiencing a "spring-cleaning" spree. Every missing brick in Riga dislodged by war or neglect is being replaced.

Photograph by J. Reeksta

A CORNER OF THE RIGA FLOWER MARKET

The flower girls of Latvia are more often than not wrinkled with age and bent by toil. But Latvia owes a heavy debt to its women, who drive the wagons, harvest the flax, pile up the grain, tend the cattle, sweep the streets, pull the carts, run the hotels, tend the street markets, keep the stores, shovel the sawdust, and juggle the lumber.

Photograph by Maynard Owen Williams

AN EGG-SELLER INSPECTING HER WARES IN A RIGA MARKET

The virtue of every egg is proved by "candling" it with the aid of a square of brown paper wound to form a tube.

who paved the way for the Baltic barons and their huge landholdings, which are only now being broken up.

When the Order of the Sword was threatened, it amalgamated with the Teutonic Order, whose sanction of force as a means of Christianization was like unto theirs. They found plenty of fighting for several centuries.

The conquest of Riga by Gustavus Adolphus, the year after the *Mayflower* accomplished her historic voyage, was the biggest boost toward freedom that had been given to the Letts.

A Russian Tsar next laid waste the land, but failed to capture Riga. Under Peter the Great, Russia assumed control and civil, religious, and linguistic rights were granted. In 1795 Courland was definitely annexed to Russia, and in the time of Alexander III's imperial policies the Russian language was forced on the people.

All this time, from 1200 on, the German landlords were "digging in" for a long occupation, which was recently disturbed, but even yet their tenure is not decided, as the price of the lands taken over by the Republic of Latvia has not been paid to the former exploiters.

All this is rather complex. If one believes the colors on the different maps, Germany, Poland, Sweden, and Russia all have rights in a territory of which the Letts have had possession for thousands of years.

The revolution of 1905 gave to the government of the Tsar and the German landlords a good clue to what was coming to them, and for 13 years the Letts stored up hate and patriotism against the day when a combination of the two would win their freedom. A present difficulty is that hate, in achieving its purpose, developed a momentum of its own.

Chauvinism does not rule in Latvia. Peace and security are general, but every position held by a Russian or a German is subject to attacks. Because the Russian theater was habitually crowded and the Lettish theater almost empty during my visit, some enthusiast thought it bright to dash out the lights and fire a revolver over the heads of the crowd.

On the other hand, the Government,

thinking that many citizens would want to change their names with the coming of freedom, opened an office for that purpose. When the sole applicant desired to change her name from Lettish to German, the office was closed.

A LAND OF THREE LANGUAGES

Many Letts speak three languages. It is a fact of which to be proud. But liberty achieved gave the people an astigmatism toward Russian and German, both of which are world languages. Lettish, for all the fact that it is an Indo-European tongue, perhaps allied to Sanskrit, serves fewer people than there are in Philadelphia, in an area smaller than Maine.

In the old days the signs in Riga were trilingual, with Lettish at the bottom of the list. After seven centuries of cruel exploitation and months of bitter fighting against Germany and Russia, the Letts did not like to see two hated languages above their own. They had new signs printed, with the Lettish at the top and German and Russian below.

A small chauvinistic element, freshmanlike, went even farther. On brand-new signs, paid for by the State, which proclaimed in three languages that dogs should not be allowed to run loose in Riga's truly beautiful parks, the German and Russian portions were tarred out, so that it a man can't read Lettish his dog has some excuse for running wild.

At street-car stops, the Russian on the signposts is painted out, a bar of iron completely covers the German, and the Lettish is the only language which can be read (see illustration, page 417). If one asks the way in German he is naturally directed to streets by their German names; but when he comes to a street sign, both Russian and German having been crossed out, the remaining name bears no relation to the one given him.

The foreigner who speaks Russian or German is looked at askance. Libau has been a port since the days when Latvia was Amber Land and Phœnicians here secured that golden commodity, leaving coins behind as links between the Baltic and the Mediterranean. For hundreds of years Libau has been its name. To-day it is called Liepaja, and the man who

Photograph by J. Reeksta

PREPARING HIS FLAX FOR MARKET

Trade in Latvian flax is a Government monopoly. England, France, and Belgium are the chief customers.

Photograph by Klio

SHIPPING FLAX FROM RIGA

Photograph by Maynard Owen Williams

A CORNER OF THE FLEA MARKET IN THE MOSCOW SUBURB OF RIGA

From one end of prewar Russia to the other the sale of second-hand odds and ends, held usually in the street, is highly popular and is still counted on by the poor to provide the things that might be bought for a fraction more in a regular shop. These are sometimes spoken of as thieves' market (see text, page 418).

unthinkingly asks for a ticket to Libau may miss his train while the ticket-seller, who can't be expected to know everything, tries to recollect just where "Libau" is. One sails from New York to Libau, but from Liepaja to New York.

WOMEN WHITEWINGS KEEP RIGA NEAT

Perhaps Riga is too splendid a city for the present life of Latvia. Reduced to one-third of its population and changed from an industrial city to a white-collar capital, it cannot put all of itself in repair. There are sections where bats will nest before workers again occupy the existing buildings. But, leaving aside these restricted areas, Riga is neat and trim.

From one end of Latvia to the other, bridges are being rebuilt, roads restored to their former excellence, buildings put in order, and signs painted. Even the superstitious must walk under ladders.

The women whitewings do their work well. An hour after the open-air markets have broken up, the piles of litter are removed. The parks are maintained in perfect condition, and the great masses of old-fashioned flowers are laid out with painstaking care. Riga comes as near to being a spotless town as any city in Europe.

Within a stone's throw of the American Consulate one can buy American typewriters, adding and duplicating machines, but the old-time abacus is used in the Bank of Latvia. The cashier, in true bureaucrat style, calmly blew a cloud of cigarette smoke in my face and then demanded my name, as though I were a rookie reporting for drill. At another bank I was exceptionally well treated. But the more an American sees of foreign banking methods, the more he appreciates the courtesy, the dispatch, and the efficiency of the American institution, be it in Washington, New York, Chicago, or Paris.

During my stay, the Letts were making the change from roubles to latts or gold francs, at 50 roubles or 100 santimes to the latt. The confusion was indescribable.

The Lett, like Riga, is a strange mixture of old and new. He has the qualities of primitive peasant and pushing business man. Carrying his brief case toward the Bourse, he still suggests the soil. A city dweller in appearance, a man who would be awkward at a plow handle or a horse's head, he nevertheless seems to have his family tree set in a farm.

Photograph by Maynard Owen Williams

A "CAR-STOP" SIGN IN RIGA

Under the Russians, Riga was admittedly a trilingual city. This sign originally had the words in Russian at the top, in German in the middle, and in Lettish at the bottom. The Letts have painted over the Russian, fastened a bar of iron over the German, and left Lettish as the only guide (see text, page 415).

LOTTO IS LATVIA'S MAH JONG, BRIDGE, AND POKER

The Letts love all kinds of amusements, but the one indoor sport that can break up anything, from a dance or a dinner to a political meeting or a movie, is *lotto*. The most sumptuous dancing palace in Riga has been given over to this game, which holds the people under its spell until the policeman who guards the door comes to say that the party is over for the night.

Photograph by J. Reeksta

AN OUTDOOR MEAL AT NICA, FORMERLY NIEDERBARTAU, SOUTH OF LIEPAJA, ON THE RIVER BARTĀ

Two or three hundred people of both sexes sit at tables littered with lotto cards in a room which the men keep filled with smoke. Although the lottery machine into which the numbered balls are poured is designed to break up any logical sequence, it is an admirable place to learn to count. In a clear but monotonous voice the man at the machine calls out the numbers in Lettish, German, and Russian, as they fall from the machine. Lotto ignores linguistic chauvinism, and for those to whom three languages are not enough there is a score board on which the numbers are displayed.

IN RIGA'S VEGETABLE AND FRUIT MARKET

Every day Riga renews its touch with the soil. Along the quay and in the old Alexander Platz are held the open-air markets to which the peasants bring their flowers, vegetables, fruits, and mushrooms. Instead of such low groggeries as one expects to find alongshore in a port city, there are long rows of country wagons full of cabbages and kraut, carrots, potatoes, and onions.

Here and there wander the few Russians who carry over their shoulders strings of teething-ring hard-tack like single-jointed pretzels, which they peddle to those with Slavic tastes (see page 411).

There are many kinds of fruit. On a single visit I found cherries, pears, apples, blueberries, gooseberries, and raspberries, plums, currants, and a red berry which no one could name for me in English, but which is gathered in the woods and is most popular of all. The strawberries grown beside the Baltic are said to surpass any the rest of the world can offer.

Vegetables are plentiful and of excellent quality, but the restaurants seem to consider it their duty to charge relatively high prices for them, to remove the taint of their plebeian origin. An order of a few carrots or some delicious cauliflower costs as much as a filet mignon which melts in the mouth.

IN THE FLEA MARKET

Less spectacular, but equally typical of Old Russia, is the weekly flea market (you don't bargain for 'em, but you get them just the same), which is held in

Photograph by Klio

PREPARING LATVIAN TIMBER FOR MARKET

A fourth of the area of Latvia is forest-clad. Sawn timber, furniture, paper, matches, wood distillates, and agricultural implements are exported.

Photograph by J. Reeksta

A LITTLE REST IN A LATVIAN WOOD

During the four months of spring and summer the peasants work from 4 in the morning until 7, when they have breakfast. Work after breakfast, work after luncheon, and work after the evening meal is their continuous program while the crops are growing. In the winter there are repairs to be made and threshing, weaving, and spinning to be done.

Photograph by J. Reeksta

WINTER IN THE WOODS NEAR RIGA

More than three-fourths of the trees in Latvia's great wooded expanse are conifers. The timber exports reach $6,000,000 annually. The Government does not exploit its forests, but auctions the privilege of cutting in certain areas.

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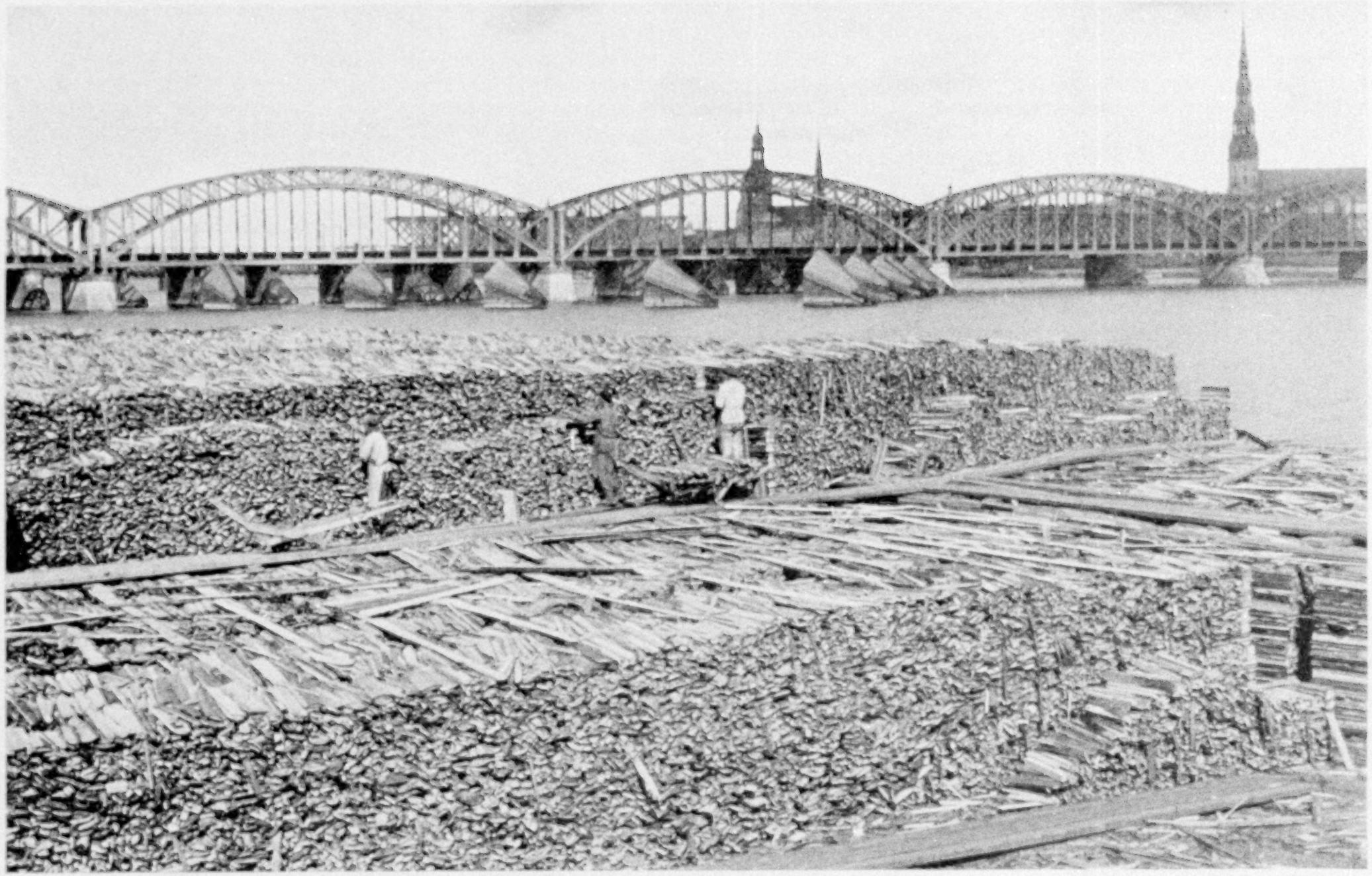

Photograph by Maynard Owen Williams

THE LOWER END OF THE ISLAND OF HASENHOLM, WITH THE RAILWAY BRIDGE AND THE STEEPLES OF RIGA IN THE DISTANCE

Much of Latvia's valuable wood crop is annually turned into manufactured products. Five of the Republic's large paper mills export part of their output to Soviet Russia, England, and the United States.

Photograph by Maynard Owen Williams

LUMBER RAFTS IN THE DAUGAVA RIVER ABOVE THE RIGA RAILWAY BRIDGE

Hasenholm Island (see also page 421) is almost a lumber raft itself, with piles of timber stretching as far as one can see and a fringe of floating logs nearly touching the opposite shores.

the Moscow suburb on Sundays. Near at hand are rows of small shops, with all sorts of cheap notions, but the flea market proper—if a market with such a name can be proper—is held in the street (see page 416).

THINGS NO THIEF WOULD STEAL

These markets are sometimes called thieves' markets, but no thief would steal such junk. They are rather the want-ad columns of provincial trade. Some one has something that he or she does not want and, in order to get rid of it, is willing to go to a fixed place on market day and sit down in the sun, if any, or stand in the rain, as there is likely to be, and watch it until some one takes it off his hands or he has to carry it home again.

Canary birds and religious pictures often figure in the exhibits. There are always books in several languages and sheet music. One man had a lot of old coats for sale, including a bright-blue one with gilt buttons.

"It's a little tight across the front and he is growing fast," said a capable-looking woman, while her boy eyed the alluring buttons.

"That's the beauty of a double-breasted coat," urged the peddler. "It can be let out on both sides." Anyone who knows the Lettish woman knows whether he sold the coat.

There were kid gloves, once white; a stuffed dove, evidently left over from peace negotiations and somewhat the worse for wear; a family Bible with imposing initials on a brass name plate; several 1910 calendars; a spyglass without a back lens; rosy-cheeked savings banks like apples; paper flowers, truer than life; group photographs dating from the time when Dundreary whiskers and a derby were signs of male beauty.

Along the curb were several shoe dealers. (If the shoes look about right, you try them on yourself.) A woman sat down on a rheumatic sofa to pull on a pair.

"Do you want to break that sofa?" asked the owner.

"No," answered the woman, assuming a storklike position and tugging at the rough shoe. "I was trying it out, thinking I might buy it. But if it's so weak, I won't take it."

There was a good-looking violin, but the dealer, who was not a virtuoso, drove the thought of buying out of the minds of everyone present by playing a few bars to show how good it was.

There were stringless tennis rackets; a pile of collars and cuffs, which had been worn but not laundered; ribbons, sweaters, beads, and beds; and baby carriages that had earned their way thither by acting as delivery vans. The prize of one man's collection was a high heel from a lady's slipper covered with scarlet kid.

Earnest arguments everywhere, but no real noise—only the low buzz of a well-oiled business machine.

Riga, like Leningrad (Petrograd), has a time schedule all its own. Daylight-saving might well have originated there, for the city people use as little of it as possible. Whether it is that the white nights of summer instill late habits which carry over into fall, or whether the winter nights are so long that they don't know what to do with daylight when they have it, one can't say. Nothing but the opera gets under way until late. About the time that New Yorkers, permanent or temporary, are pouring forth from half a hundred theaters, the Lettish pleasure-seeker is just beginning to enjoy his Wiener Schnitzel.

The Government workers have a one-session day, so that they lunch after three. "Where do the people eat?" was a question I asked myself for several days. It was the "when" of it, that deceived me. Sitting late one rainy afternoon and writing letters in a splendid dining room in which I had three full-dress waiters, a dozen mirrors, a wide expanse of spotless, silver-dotted nappery, and several dozen heavy hand-carved chairs all to myself, I looked up, about tea time, to discover that my monopoly had been broken. The lunchers had arrived.

The 7 o'clock opera thus becomes a sort of matinee and the after-theater cabaret comes into its own. The night life in Riga starts late and reaches top speed long after midnight.

LATVIANS ARE FOND OF THE SEASHORE

More than half the trains in Latvia in summer run between the capital and the Strand. Motor buses leave the city at

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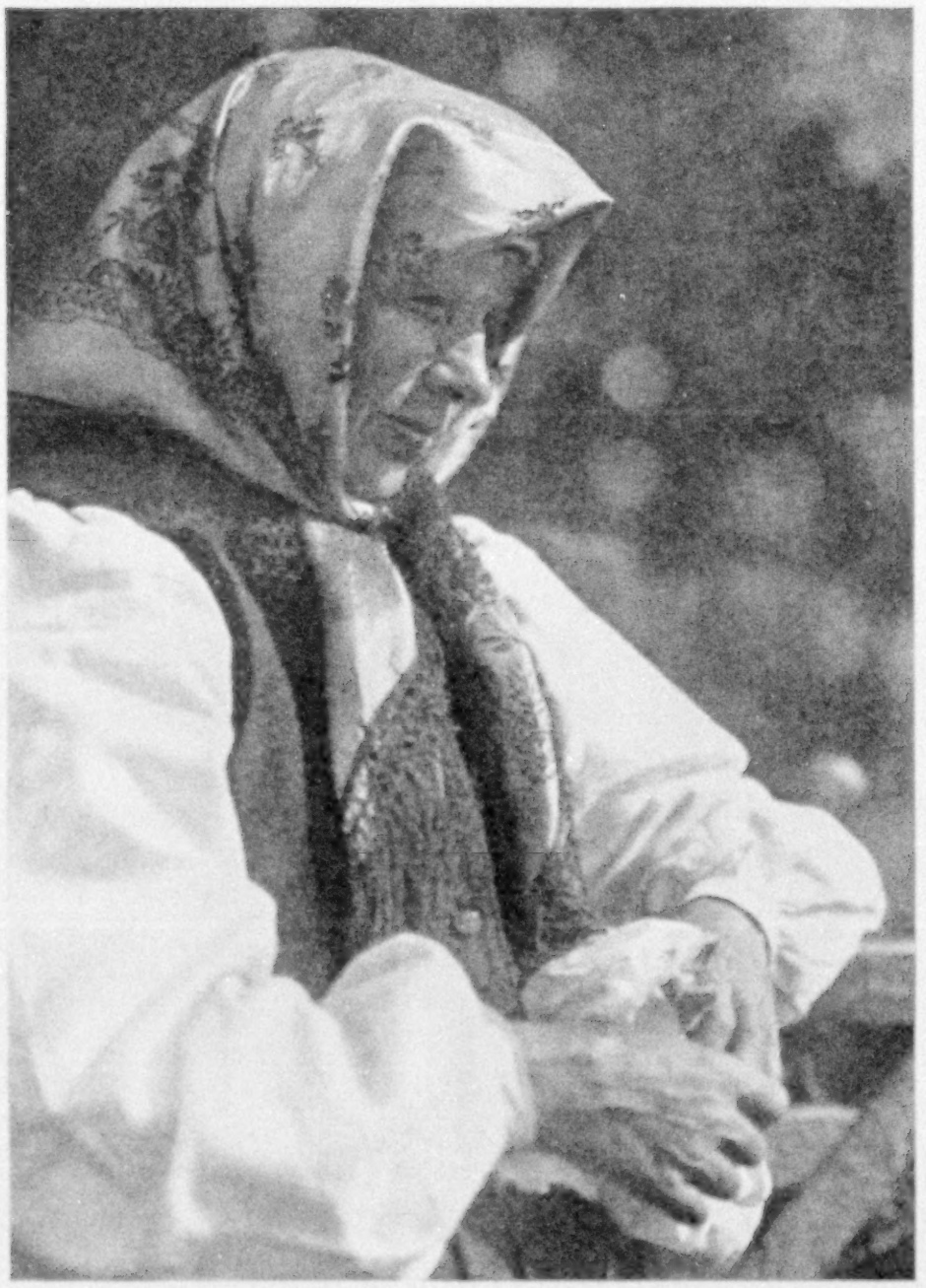


Photograph by J. Reeksta

A WOMAN OF RUCAVA

seven and return at two in the morning. From Bulli to Dubulti there runs a big wooded dune rising between the summer homes, hidden in the pine forest, and the fine sand beach.

There are several modest bathing houses, and the fishers, after their black boats are beached and the day's catch sent to market, dry their nets on stakes driven into the sand. One fisherman sailed out of San Francisco for many years and speaks good English. As we separated he gave me that parting word which is now popular from Dantzig to Narva when English is spoken. It is less elegant than an Arabic farewell, but it has a home sound after all. Just, "So long!"

Latvia is mainly an agricultural country, about equally divided among cultivated fields, forests, and pastures. Although peatbogs cover some 10 per cent of the land, there is relatively little which the Letts consider useless.

The great estates of the Baltic barons are being broken up and new rooftrees, crowned with oak wreaths, are rising from one end of the country to the other. Cooperative societies with their own grain elevators, repair shops, experimental farms, agricultural schools, and printing offices, are assuming the burden of technical education, machine buying, and butter and crop selling.

Until the division of the estates, this was borne by the landed proprietors, many of whom entrusted the technical details of their properties to skilled managers and gave themselves to cultural pursuits far above the level to which the poor but literate Letts as a whole could aspire.

Latvia's agrarian reform has not endeared her to all nations, but it has done much to relieve the miseries of a land-hungry peasantry and to prevent communism from becoming paramount in the politics of the State. With Bolshevism pressing in one side and Baltic barons sitting on the lid, something had to happen. The lid blew off.

Although the former proprietors have been left in possession of far larger properties than any of those being distributed to new landholders, the whole problem of agriculture has been materially changed and the day of the tractor delayed. The administration of an estate of 180,000 acres was one thing; its division among

Photograph from Ernest Peterfiy

LITHUANIAN COAL-SHOVELERS AT THE PORT OF LIEPAJA

So closely do the neighboring Lithuanians and Letts resemble each other in personal appearance, language, occupations, and the hardships of life that foreigners usually identify them as one.

Photograph by Maynard Owen Williams

A YOUNG LATVIAN WOMAN OF JELGAVA

In the labor of Latvia there is neither age nor sex line. Children assume definite duties at the age of seven, and old women stagger into the towns under heavy loads or toil in water to rescue swamp grass for hay.

4,500 new proprietors, each owning 40 acres, introduces new problems, economic and technical as well as political.

The enemies of agrarian reform insist that the improvement of the human condition will involve a consequent deterioration of stock and agricultural products.

But Latvia assumes that it can as easily become a second Denmark by approximating the human conditions among the Danes as it can by copying stock-raising methods alone.

THE REMAINS OF ONE OF THE FINEST ROADS IN THE WORLD

The old chaussée between Berlin and St. Petersburg (Leningrad), across what is now Latvia, was one of the finest roads in the world. My chauffeur, who drove the 30 miles from Riga to Jelgava (Mitau) in two hours, had often made the distance in pre-war days in 35 minutes. There are stretches now where four high-powered cars could race abreast, but at the time of my visit several road crews were hard at work piling stone, crushing it with modern machinery, and resurfacing this highway, which was long subject to shell-fire and war traffic and is only now being thoroughly restored.

The region between Riga and Jelgava has not lost its war look. Trenches still sprawl across the thin soil. Barbed wire entanglements are hidden in the underbrush. Several of the stations are quite dwarfed by piles of barbed wire. Scores of peasants are living in shelters not much better than those used by troops during the war (see page 404).

Cement gun emplacements were boarded up in back and provided with a single window. In one an old woman and her son were living, seemingly contented, with a sunflower garden and a faithful but suspicious dog.

Along the roadsides and in the fields from which hay or grain had been harvested, young girls and boys were watching their herds.

THE COUNTRY DISTRICTS ARE RECOVERING

Splendid as is the capital of Latvia, it is in the country that one is most impressed by the fight these people are making. The country is recovering. The flocks and herds are increasing, the fields are producing their harvests. Just now

the nation's ruined factories may be considered as liabilities, whether they be left to ruin or are restored. But the fields and forests, pastures and flocks, are assets earning immediate returns.

Latvia's farmers are not wasteful. Not only must swamp land produce its crop of hay, but that hay, when gathered, is conserved. A thatch roof on a haystack is too wasteful in this land of rains, so a wooden roof is supported between four posts, like a shelf in a bookcase. As hay comes in, the roof rises; as it is used, the roof is let down to protect what remains (see page 438).

Grain is not stacked on the ground, but is piled around a tripod of rough-trimmed branches, which keep it out of the damp and let the air course through it.

Much as it dominates the life of Latvia, agriculture beside the Baltic is not spectacular. The people wear little color and no distinctive costume, except in remote regions, such as Rucava and Nica, and neither field nor forest has such majesty as one hopes to find.

Photograph by J. Reeksta

ONE OF THE SAVIORS OF THE COUNTRY—A LATVIAN PEASANT WOMAN (SEE TEXT, PAGE 437)

FLAX, STAFF OF LATVIA'S ECONOMIC LIFE

Flax and lumber are Latvia's main exports, and in Riga both are impressive. Flax is a Government monopoly and is conditioned and inspected as is silk in Japan. Dray after dray goes toward the steamers laden with handkerchief, collar, and lingerie material as yet in a very untidy state, looking like the unkempt swabs with which an attendant erases one's epidermis in a Turkish bath. An inspector thrusts pointed irons through the uncouth bundles to make sure that the soil of Latvia is not being exported as a filler.

We passed scores of flax fields in different parts of Latvia. Although assured that those seen were full size, it was hard to believe that flax was more than a catch-crop filling in odd corners, instead of a mainstay of Lettish commerce, rising to 35,000 tons a year.

The same is true of lumber. The island above the railway bridge across the Daugava is almost a lumber raft itself, with piles of timber stretching as far as one can see and a fringe of floating logs almost touching the opposite shores (see illustrations, pages 421 and 422). Although one is never out of sight of trees and often in the heart of a forest, it is not

Photograph by Maynard Owen Williams

A NEWSGIRL OF RIGA

Lettish journals predominate, but one can also buy Russian, German, and French papers and magazines, as well as the continental editions of two American and several English newspapers at this stand in the Latvian capital.

until a wharf or a sawmill is approached that the lumber of Latvia becomes impressive.

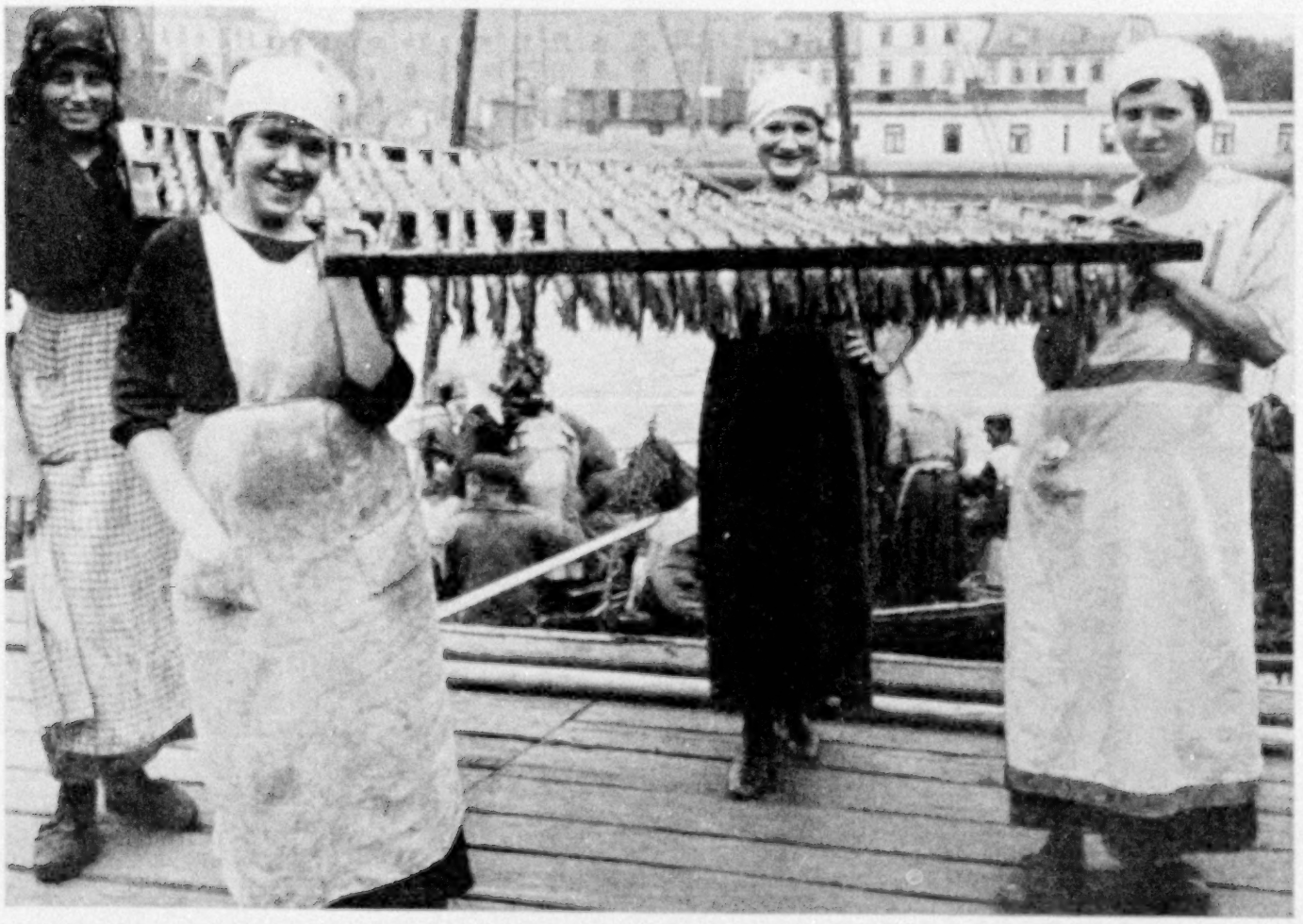
At Riga, Liepaja, and Ventspils (Windau), lumberyards are the most prominent features of the scene; yet this squared timber for export represents only one-seventh of the total production, which is not only used for heating and building and for roofing over the hay crop, but also for driving locomotives and factories. Two-thirds of Latvia's lumber is used near the place where it grows; yet her export lumber has made an enviable reputation.

IN THE CAPITAL OF COURLAND

Jelgava, the chief inland town of Latvia, and for centuries, during which it was known as Mitau, the capital of Courland, is a dull place. Its main building was a palace, which took a third of a century to build and was completed in 1772. It always had an aristocratic air, for it not only harbored Louis XVIII of France while Napoleon was playing ducks and drakes with European nobility, but was also the residence of the governor of Courland while that province had its own colony in Africa and owned the island of Tobago, off the coast of Venezuela.

During the Lettish fight for independence the enemy were forced to withdraw from Mitau, but they took time to burn this building in such a thorough manner that the terra-cotta-colored palace was completely gutted and not a bit of charred wood remains attached to the walls.

Jelgava itself lacks distinction. The big cobbled square is surrounded by mediocre buildings, and once the morning market has taken to its wheels and gone home, it is a lonesome place. All around the town are low fields covered with coarse hay, which is harvested as carefully as if it were the choicest timothy or clover. Boats are used for getting about, and one big haycock, with a woman dressed in bright red at the top, was on an island. The rivers here divide into a thousand tiny streams, like the



Photograph from Ernest Peterffy

LATVIAN GIRLS OF LIEPAJA (LIBAU) CARRYING HOME THE DAY'S CATCH

A species of sea trout, which closely resembles the salmon and is often mistaken for it, is found in abundance in Latvian waters. Whitefish of some of the coarser varieties and herring are also plentiful. Quantities of preserved fish are exported.

veins in a hand. Small streams run down the Lielupe, which was the Semgaller Aa, to Dubulti, on the Riga Strand.

The bright spots in Jelgava, as in every town from Ventspils to Zilupe, are the schools. The crop of young folks is most promising.

LIEPAJA'S GRAIN ELEVATORS ARE NOW QUIET

Liepaja (Libau) lies between a lake and the sea, which were joined in 1703 by a channel, now the Harbor Canal and the busiest part of the port. Along the banks are not only modern elevators and coal hoists, but old warehouses, with antique iron hinges on their doors, which still serve the needs of the city. With Russian and Siberian grainfields not now using Liepaja as an outlet, the elevators are quiet.

North of the city is the large Military Harbor, with dry docks, repair shops, and barracks, which could easily be converted into warehouses.

Liepaja's prewar hinterland extended to the Dnieper and the Don, but it is only 13 miles farther from Moscow than Ventspils is and it may handle much central-Russia trade in winter, when Riga and Leningrad are closed to traffic.

All around Liepaja are the ruins of old forts. After Japanese bayonets pricked the outstretched paws of the Russian bear, Kaiser Wilhelm insisted that these forts were a menace to German prestige in the Baltic and succeeded in getting them blown up.

Outside the harbor is a Russian cruiser, which was sold by the Petrograd Soviet to some junk dealers in Germany, but was sunk while being towed south. Legends are clustered like barnacles about this wreck. It is said that the Moscow Soviet suspected their Petrograd colleagues of using this worn-out cruiser to smuggle gold out of Russia. The main concern of the Liepaja authorities is how to get rid of this hulk, which almost closed their front door and still remains

Photograph from Ernest Peterffy

FISHING SMACKS IN THE HARBOR OF LIEPAJA

The Latvian is frugal and every fish is salvaged if possible. The women are here shown picking some of the catch out of the meshes of the nets. Ten years ago 10,000 Lettish fishermen earned their living from the Baltic, but during the World War they were forbidden to continue this pursuit. The survivors are now building up the industry again.

Photograph by J. Reeksta

CELEBRATING THE FEAST OF SAINT JOHN'S DAY, ONE OF THE MERRIEST OF LATVIAN HOLIDAYS

On the 23d of June country wagons bring great loads of leafy boughs into town for Saint John's Eve, when young and old participate in the festivities. They wreathe their heads with garlands, the farmers fix on poles small barrels filled with wood or tar and ignite them, and the farmers' wives serve great quantities of flat, round cheeses, called Saint John's Day cheese, to be consumed in the intervals between the singing and dancing.

Photograph from Ernest Peterffy

A PRIMITIVE WOODEN PLOW IS STILL USED BY SOME LATVIAN FARMERS

Despite the adverse conditions under which the peasants worked before the World War, Latvia was a land of prosperous farms and modern dairying establishments. It was often spoken of as the "Denmark of Russia" because of the productivity of its land and the richness of its butter and cheese. Now the independent land-owners are saving their santimes and buying motor tractors and motor plows, which were practically unknown here in prewar days.

as a gratuitous reminder of two unpopular nations.

LIEPAJA'S OPEN-AIR MARKET

The Liepaja open-air market shows much activity. One starts in at the lower end with barreled fish eloquent of age, moves past enough cabbage heads to provide Russian soup from Daugavpils (Dvinsk) to Vladivostok, and stops to see pink little pigs which came to market in a small cart drawn by a woman, who points out their fine qualities as a mother would show off her baby (see page 436).

Here some young men in uniform told me that photography was not allowed, and the man who collects the daily license money tried to make me pay for "working" in the market place. On investigation I found that, except in special cases, the old Russian laws still hold, and although one could take photographs in Russia immediately after the Revolution, photographs can only be taken in Latvia by special permission.

Several times in Liepaja my right to take pictures was challenged and proved by the letter which the Foreign Office

Photograph from Ernest Peterfly

SOWING CARROT SEEDS IN LATVIA

In an earthenware bowl of seeds the peasant places an egg as a symbol of frugality, a silver coin and a piece of bread as signs of future yield. In the field she puts the seeds in her mouth and then squirts them into the furrows as she walks along.

Photograph by J. Reeksta

BEAUTIFUL OLD LETTISH COSTUMES, NO LONGER GENERALLY WORN

The traditional attire of the Letts was conspicuous for its richly embossed breast buckles and coronet-shaped headdress, several varieties of which may still be seen occasionally in the Liepaja district, where the ancient costumes are sometimes worn on festive occasions, such as this.

XUM

Photograph by J. Reeksta

A HAPPY GROUP FROM RUCAVA

The Latvian women seldom wear brightly colored garments, but dress for the most part for comfort in dark, inconspicuous colors, but the women of Rucava have attained distinction for their beautiful homespun cloths and embroideries.

THESE LITTLE PIGS WENT TO THE LIEPAJA MARKET IN A WAGON DRAWN BY A WOMAN

Photographs by Maynard Owen Williams

EARLY MORNING IN THE STREET MARKET AT LIEPAJA

Photograph by Kho

THE ROAD DOWN INTO THE VALLEY OF THE GAUJA AT SIGULDA

Sigulda, known before the World War as Segewold, is a summer and winter resort. The ruins of the castle of Segewold, built by the Teutonic Order in 1208 and destroyed in the seventeenth century, and the château of the Prince Krapotkin have lent a charm to the prettily wooded slopes of the valley, which cause it to be known as Livonian Switzerland (see text, page 443).

had kindly provided. As far as working in the market was concerned, I discovered it was because I stood on a box in order to get a better view of the pink pigs, and as the woman had already paid the tax, she entertained me on her box.

A lot of hard-leather moccasins, or *pastalas*, were watched over by a young girl wearing a Manchester bandanna. The young Lettish women are taking to colored handkerchiefs in place of the stiff, spotless head-shawls of their mothers, and the majority profit from this touch of color close to fresh cheeks and fine eyes.

Milk and cheese products come next. All these displays are in horse-drawn wagons or in handcarts, only slightly smaller. But across a narrow passage there are the various forms of bread, ranging from pea-shooter ammunition, through wedding and teething rings and ring-toss circles to life-preservers. There are also more orthodox loaves of white bread, crisp of crust, that would grace a French *pâtisserie*, and round black loaves which would make good hitching blocks.

Carrots, upon which it would seem that soap and a nail brush had been used, vie with gorgeous dahlias and transparent currants; purple cherries and rosy apples add their decorative effects. The egg-sellers seek a corner to themselves, and farther on there are sellers of notions, and the ubiquitous peddler of glass cutters and crockery cement.

LATVIA'S DEBT TO HER WOMEN ON THE FARMS

Many a young Lett died in liberating his land from German and Russian; but no one can evaluate the debt that Latvia owes to its old women. Like the mean-looking little Latvian ponies, whose endurance rivals that of the shaggy Tarpans of Siberia and central Asia, they do not look splendid; but they are. But for them, the land that is now Latvia would not be.

Under pressure of enemy occupation,

Photograph by J. Reeksta

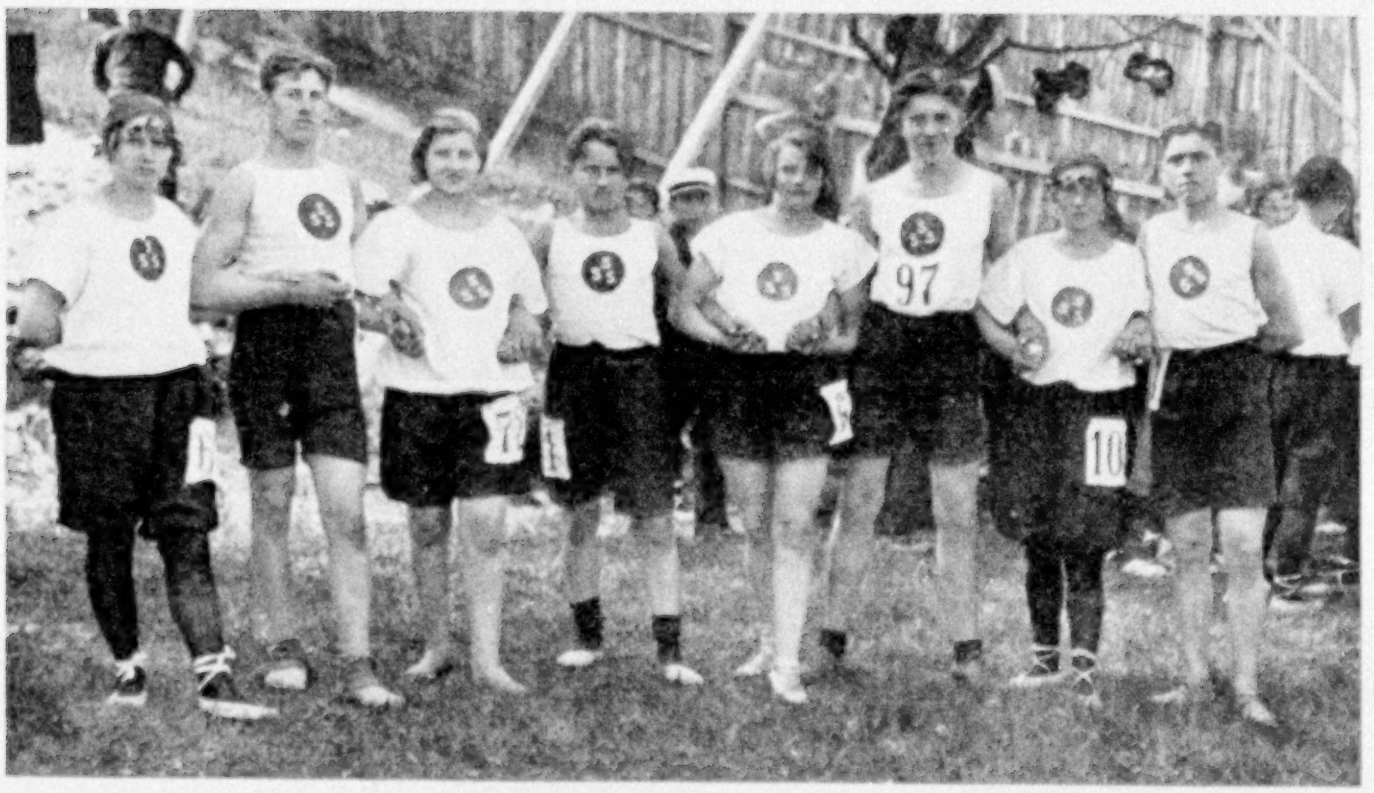
THE HAYMAKERS

Agriculture is the economic backbone of Latvia, and the favorite proverb of the Lett is, "He who cares for the land will be fed by the land." The curious hay-turning implement wielded by some of the workers is peculiarly Latvian and resembles a double-bladed oar.

Photograph by Maynard Owen Williams

EVERY LATVIAN HAYRICK WEARS A HAT

Hay is valuable enough in Latvia not to have to furnish its own thatch. But wood is plentiful, so the farmer builds a wooden roof supported by four posts, on which it can be raised and lowered like the shelves in a modern bookcase (see text, page 427).



Photograph by V. Grekov

HIGH-SCHOOL BOYS AND GIRLS OF LIEPAJA

The Latvian Republic outstrips its big neighbor, Russia, in literacy, the census of 1920 showing that 70 per cent of the former's population could read and 63 per cent could both read and write. Before the World War, Latvia claims to have had within what are now its national boundaries a larger number of secondary schools in proportion to its population than any other country.

Photograph by Henry Kruskops

PHYSICAL DRILL AT KARA OSTA, THE WAR HARBOR OF LIEPAJA

Down near the sea clean-limbed young athletes exercise in the stadium, which occupies a former fort, and the fine friendship between the young men and the fresh-cheeked, deep-lunged girls is a joy to see. Hundreds of these young people every year emigrate to the United States.

Photograph from Keystone View Company

LIFE NOW FLOWS PEACEFULLY IN WAR-TORN KURZEME (COURLAND)

When dispatches from Riga announced that Latvia had become a republic, the country was found to have many aliases. Latvia, Lettland, Livonia, Livland, Courland, and Latgale are a few of the names by which it has been called.

when the land was stripped of its crops and hunger was the rule, these brave women carried on. To-day they are the backbone of the country, and the whitest collar or fairest throat at the opera does not so embellish the new State as do these wrinkled old women, who toil during the long summer days, then keep on through the long, cold winter, rain or shine, snow or sleet, driving to market and selling the produce—cheery, brave, enduring in the face of a climate that would discourage a Titan.

EVERY RIDE THROUGH THE COUNTRY PROVIDES THRILLS

The Latvian horses are not yet accustomed to the automobile, and every ride in the back country provides thrills—usually for someone else. To watch these Lettish women handle a pair of frightened horses on a narrow road bordered by deep ditches is to know where the modern Amazon drives her steeds. They are as efficient as the men and not half as cruel.

They must feel fear, for when there is a man driving, their motto is "Safety First." They drop off the load at the first sound of a motor, with scant attention to pride or modesty; but when they hold the reins, they stick, even if the horses jump a ditch and knock over a rail fence. From eight-year-old cowgirl to wrinkled granny, bent forward under a load of fagots, the country women of Latvia are splendid.

At Ventspils I found women driving the wagons, harvesting the flax, piling the grain, tending the cattle, sweeping the streets, pulling the handcarts, running the hotel where I lunched, waiting on table, tending the street markets, keeping the country stores, shoveling the sawdust, and piling the lumber trimmings at the mill.

The heavy lumber was piled by men, with sole-leather platforms strapped to their right shoulders. If moving the light cars was too hard for the women, a horse was used. But that was unusual.

One ride through that countryside where war has wrecked and woman has saved made man power and horse power seem inadequate terms. The woman power of rural Latvia exceeds the man power and horse power combined.

FUTURE PORTS FOR RUSSIA'S COMMERCE

Liepaja and Ventspils live in the past and the future. Linked to a huge hinterland by rail to Romni and Moscow they rank with Riga, which has direct rail connection with Tsaritzin, on the lower Volga, as future ports of Russia. Both are ice-free throughout the year, but for the present they sit there beside their almost deserted harbors dreaming of the past and planning for the future.

Latvia is making great claims as a future transit country, and the evidence of the past is in her favor. In prewar days one-fourth of Russia's immense tonnage passed through ports now Latvian.

It is impressive that between 1919 and 1922 the number of usable locomotives increased from 111 to 320. But 320 locomotives and about the same number of passenger coaches are utterly inadequate to maintain service over nearly 2,000 miles of track—broad, standard, and narrow gauge. Freight cars are jacked up and their axles changed from one gauge to another for passage from the European to Russian lines. But this is not done with passenger cars.

A VISIT TO THE "LATVIAN SWITZERLAND"

One morning in Riga I woke to find the sun shining. It occurred to me that it was a good day for an excursion to Sigulda (Segewold) and the Latvian Switzerland. The same thought evidently occurred to most of the residents of Riga.

By twenty minutes before train time there were enough people standing in line to buy third-class tickets to last an hour. More were coming every minute. After being sent from one window to another to buy a second-class ticket, I boarded the train without one. Half an hour late we started, leaving some scores of would-be passengers to go off and play by themselves. I paid a fine for not having a ticket and spent a delightful day looking at old castles and young folks on a holiday.

Before leaving the station I tried to buy a ticket back to Riga. The early-bird proverb does not apply in Latvia. The agent would not sell one. An hour

Photograph by J. Reeksta

BLARNEY AT KOKNESE

Koknese, formerly Kokenhusen, on the way to Daugavpils, clusters around the ruins of the Castle of Kokenhusen, built by Bishop Albert in 1209 and occupied by the Archbishops of Riga from 1397 to 1566.

before the train was due there was a queue which wound through the waiting room and the buffet and out along the tracks in the rain. By train time there were at least a hundred people still waiting in line.

Three hours late, tired to death, those overcrowded excursionists arrived home. The ticket inspectors had got so tired of waiting for the train that they opened a side door and let us out without taking up the pasteboards for which we had suffered so much.

The Latvian Switzerland is no credit to its namesake, but the dwellers on the great Baltic plains are not mountaineers. Although the hills are only 265 feet high, the people evidently had all the climbing they wanted. Those who are not Nature lovers could climb about as high in some of Riga's huge apartment houses, but this pretty corner of Latvia is full of charm for those who love shady bowers, a curving, quiet river, grassy banks, and a sense of peace.

At Sigulda, where crumbling rubble walls dating from 1208 bear the crest of the Krapotkins, I found a peasant hut so charmingly draped in some climbing vine that I asked permission to photograph it. The reply was in perfect English. The young Prince Krapotkin, whose family had owned the place for centuries and who had himself lived in the modern château which overlooks the wooded valley of the Gauja (Livonian Aa) and the three ancient castles, volunteered to show me around.

He is living in the peasant hut which had first caught my eye, but the caretaker entrusted to him the key to his former home, which the Government has taken over as a retreat for journalists. Aside from a few books, the great building was empty. Not a word of complaint was spoken by my companion, though he thought it a shame that the Government was not using the building of which it had possessed itself.

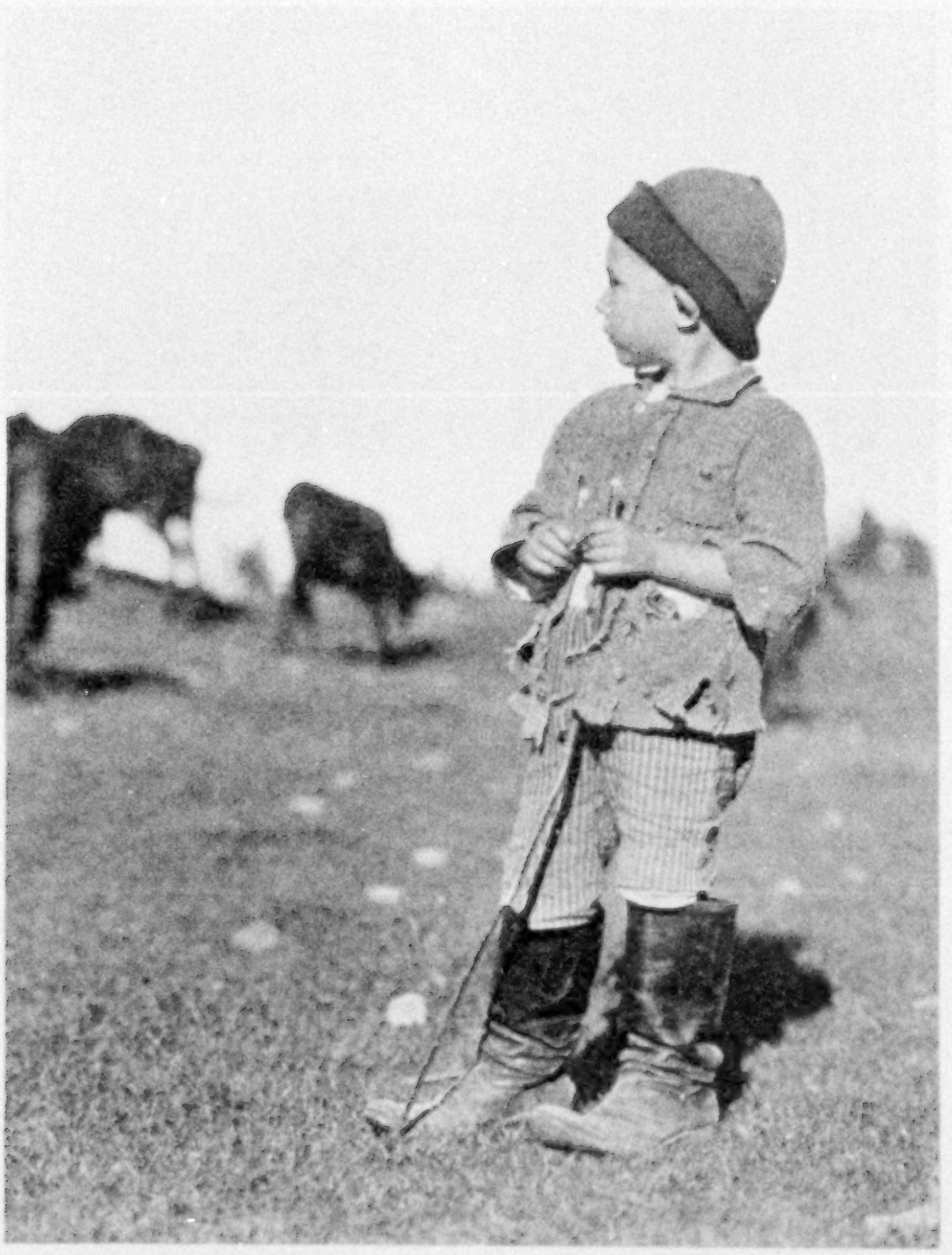
IN DAUGAVPILS, WHERE THE RUSSIAN FRONTIER IS FELT

Daugavpils is on the line to Warsaw, tucked away behind a bund beside the Daugava near the southeast corner of

Latvia. One cannot get the true flavor of the place until he calls the town Dvinsk and the river at this point the Dvina, though in doing so he must not confuse it with the Northern Dvina, which flows into the White Sea at Archangel.

Somewhere on the road from Riga we passed the invisible boundary between literate Latvia and provincial Russia. It is not so much that the Russian language figures more prominently in the spoken and printed word, as that the latter gives way to the pictographic, not as a trademark in our sense, but as an index of what is for sale.

It is not enough that boots and balalaikas, watches, and wine be exposed in the shop windows. A highly colored sign must also proclaim their presence. The Russian not only believes in signs, but depends upon them.



Photograph by Maynard Owen Williams

HE EXPECTS TO GROW UP IN HIS FATHER'S FOOTSTEPS

The life of the child in Latvia is seldom carefree or joyous. The sullen, heavy weather keeps him from romping in the open and at a very early age he must assume duties in the field or take care of the cattle.

Daugavpils is only 330 miles from Leningrad, but the St. Petersburg station (as it is still called) was much damaged and no trains are running.

In Daugavpils the Russian frontier makes its presence felt, not as a bothersome formality, but as a dead line of commercial life. Grass is growing between the ties of a railway over which the famous Nord Express once dashed from London to St. Petersburg in less than two days.

The cheeriest place in town is the railway station. There are fresh flowers in the restaurant. The barber shop is without one of those ugly wax heads to which Latvian hairdressers are addicted. The news stand is well supplied. One wonders why the whole population doesn't go to the station and take a train—any train!

But that is not the nature of the Letts or the Russians. They stick it through, the Lett by determination, the Russian by philosophy.

The Lett is friendly, shrewd, conservative, persevering, without the "Nichevo" spirit of Russian fatalism. Having waited so long for his opportunity, having won his freedom against such odds, he is determined to make the most of it.

Pacific and Atlantic Photographs

ANGORA, CAPITAL OF THE NEW TURKISH REPUBLIC (SEE TEXT, PAGE 457)

The modern town, built on the site of the Ancyra of the Greeks and Romans, stands on a plateau 3,000 feet above sea-level. It boasts two reminders of the Golden Age of Rome—a fine temple dedicated to Augustus, which is now inclosed in the Haji Beirami mosque, and the famous Ancyra Monument, on which, in a bilingual inscription, Augustus enumerates, in his 76th year, his great deeds, his conquests, and his buildings.

CROSSING ASIA MINOR, THE COUNTRY OF THE NEW TURKISH REPUBLIC

By Major Robert Whitney Imbrie

The following article, descriptive of a journey made by the author when a special representative of the American State Department at Angora, formed the basis of a lecture before the National Geographic Society in Washington in January, 1924, and was probably Major Imbrie's last literary product. It is a significant fact that he here emphasizes the courtesy and hospitality of the people among whom he traveled, indicating a sympathy and an understanding of their philosophy, their customs, and their prejudices. Major Imbrie's tragic death in July at the hands of an unprovoked mob in Teheran, the capital city of Persia, where he was the American vice-consul, is a great loss to the Foreign Service of the United States. He was an American gentleman—honorable, considerate, and brave. He served his country gallantly on the field of battle and in important diplomatic missions.—The Editor.

WE GATHERED our dunnage, saddles and packs, dropped off the steamer into a small boat bobbing about below, and went ashore at the little port of Mersina, on the northeastern littoral of the Mediterranean at the southeastern corner of Asia Minor.

It was August, 2 o'clock in the afternoon, and the heat and glare were intense. The heat was of that sticky variety, such as one finds in the Congo jungle; it seems to center one's thoughts on one idea to the exclusion of everything else—the idea of getting out of the place.

It takes a good deal to cause excitement in a country whose chief product for the last three thousand years has been war and whose by-products have been massacre, rapine, and pillage. However, we had been noticed, and presently a fine-faced old gentleman, with that gravity of manner which marks the Turk, came to greet us and invite us to his home.

He was the *belederies*, or mayor. Although we were in a sweat, literally speaking, to get away, we knew enough of the Near East to realize that coffee and tobacco must precede any business.

And here let me sound a note of warning to any would-be traveler in Turkey. If your digestion and nerves will not stand almost continual coffee-drinking—the thick, black, syrupy coffee of the Orient—and endless cigarette smoking, venture not into the Near East. No business is ever transacted, no social or official call is complete, no meeting, however casual, is ever terminated without tobacco and coffee.

One must be prepared to drink at least one dozen and perhaps two dozen cups of coffee a day and consume many cigarettes if he is to get along on this trip. Of course, if one can smoke the nargile, or Turkish water pipe, so much the better, but if he can he is "a better man than I am." Twice have I essayed to master this quaint instrument, and on both occasions interest was not all I lost. It leaves a feeling as if one had been smitten with what the newspapers describe as "a dull, blunt instrument."

COURTESY AND KINDNESS TO THE STRANGER

There is a railroad, of sorts, going from Mersina to Adana (see map, page 450), about 50 miles to the northeast, and it had been our intention to proceed on this.

It was characteristic of Turkey that, though the time of the arrival of our boat was known, the train did not wait, but went on its way a half hour before. The situation in nowise perturbed our host. He had a proverb to meet the occasion—the Turk always has. "To-morrow, Effendi," he said, "is also a day," and added that another train would then depart.

We were prepared to concede that to-morrow would, in all probability, be another day, but were prone to skepticism as to the train.

Here another characteristic of the Turk revealed itself—the attribute of courtesy and kindness toward the stranger.

I have experienced this kindliness, without exception, from the humblest

Photograph by the Rev. Gabriel Bretocq

OVERLOOKING THE HOUSETOPS OF TARSUS

"Fourteen miles out of Mersina—an hour by automobile over those execrable roads—we came to a town. It was an unpretentious town, with narrow, tortuous streets, mud houses, and a small bazaar, but its name has come down through the centuries" (see text, page 448).

XUM

Photograph by the Rev. Gabriel Bretocq

THE KHAN AT TARSUS

Under Roman rule, the Tarsus schools of philosophy and rhetoric rivaled those of Alexandria and Athens. With its houses roofed with red tiles from Marseille, the city of 25,000 inhabitants from afar has a European appearance.

Photograph by the Rev. Gabriel Bretocq

THE GATE OF SAINT PAUL AT TARSUS, WHERE THE GREAT MISSIONARY, AS SAUL, BEFORE HIS CONVERSION, WAS A TENTMAKER

Tarsus boasts that it was founded by Sardanapalus. After Alexander the Great had crossed the Taurus Mountains and entered by the "Pylæ Syriæ" (Syrian or Cilician Gates) he took possession of Tarsus in 333.

peasant to the head of the nation throughout some thousands of miles of travel and eighteen months' sojourn under the Star and the Crescent. In this instance it manifested itself in the offer by the owner of the only automobile in Mersina of the loan of his car for the journey to Adana. So a half hour later we chugged out over the bumpy road toward the northeast.

Fourteen miles out of Mersina — an hour over those execrable roads — we came to a town. It was an unpretentious town, with narrow, tortuous streets, mud houses, and small bazaar, but its name has come down through the centuries. This was Tarsus. Its origin is lost in the mists of antiquity; it was described by Xenophon, conquered by Alexander, visited by Cæsar, was the meeting place of Antony and Cleopatra, and is the burial place of Julian. Here Paul was born and educated; here he preached. Beneath the walls of Tarsus 300 Crusaders met their death. Yet to-day it is a Turkish commercial town of small importance, its historic past wrapped in the twilight of obscurity.

Beneath an arch through which Saint Paul himself must have walked (see above) we passed out of the town into the

Photograph by the Rev. Gabriel Bretocq

AN OPEN-AIR BARBER SHOP AT TARSUS

Like Antioch, Tarsus was renowned in the Middle Ages for the manufacture of silken cloths embroidered with threads of gold and silver woven into the woof. To-day its chief industry is cotton manufactures.

fast-falling darkness, and some hours later, arrived in Adana.

IN ADANA, GATEWAY TO THE CILICIAN PLAIN

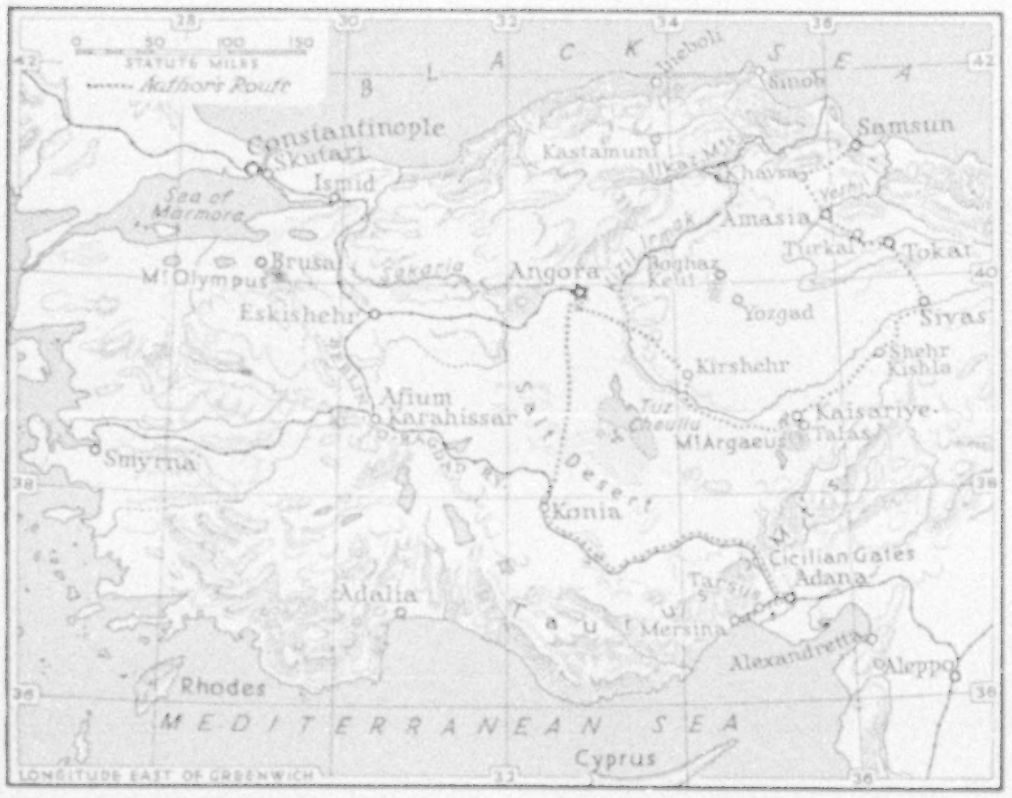
Adana, one of the large towns of Asia Minor, with a population of about 60,000, derives its importance from its situation as the gateway to the Cilician plain, that great flat stretch of fertile land, possibly the most productive in this part of the world.

In Adana all the houses are flat-topped and the roofs serve as the bedrooms for the inhabitants. There is no late sleeping in Adana, as I can testify, for a half minute after the rising sun hits the sleeper he is glad to exchange his place atop the roof for one beneath.

There is a stone bridge in Adana, some 300 yards in length, one arch of which dates from Justinian's time (see page 452).

But Adana is not an especially interesting town, and we were glad to get away early one morning on the Bagdad Railway, that iron bone on which Germany's jaws were once so firmly set.

Crossing the Cilician plain, the road enters the foothills of the Taurus Mountains. With every foot of ascent the grateful coolness increased. By midday



Drawn by C. E. Riddiford

A SKETCH MAP OF ASIA MINOR (ANATOLIA)

we had reached an altitude of nearly 4,000 feet and the famous Cilician Gates, that rocky pass through which conquering and retreating armies have coursed since history's dawn.

The scenery hereabouts rivals that of Switzerland.

ON THE BARREN PLATEAU

The afternoon saw us on the great central plateau of Asia Minor. The monotonous, barren, arid land, the pale and vague desolation, the feeble sluggish streams and salt lakes, the tortured hills, all are strongly reminiscent of central Asia.

We had seen our last trees now, save, perhaps, a few cottonwoods along some faint stream, and no longer were we to see turf. We had passed from the land of tilling to the nomadic land of grazing—from cotton to wool.

Time in the East means nothing and distances cannot be measured by it. Though Konia is distant less than 200 miles from Adana, it was not till late afternoon of the day after—36 hours later—that we slowly wheezed into our destination.

Konia is the Inconium of the ancients. It was conquered and occupied by the Greeks, the Romans, and the Seljuks, and its crumbling walls to-day show traces of all these civilizations. Here Paul first met Timothy and here he spoke in the synagogue.

There is a legend to the effect that Inconium was the first town to emerge from the Deluge. We were unable to check up on this statement, but one fact would seem to bear out the theory—the five thousand houses are all built of mud!

Located on a flat plain, the town lacks distinction, though the minarets lend charm. To-day Konia is chiefly famous in the Mohammedan world as the headquarters of the wealthy order of Mevlevite Dervishes and within one of its mosques is the tomb of the revered founder of the order.

These dervishes are whirlers. I have watched them spin for half an hour at a time, always turning in the same direction, to the low wail of a reed flute, yet apparently never dizzy. There is a certain fervent dignity about the ceremony which relieves it of any touch of absurdity.

BOUND FOR ANGORA

We now left the railroad and, with one pack animal for three people, struck out over the plateau for Angora, 150 miles almost due north. Fortunately, we had brought our own saddles, for we would have found it impossible to ride with comfort on the queer contraptions known as Turkish saddles.

On such a journey one goes armed on account of possible encounter with *cheeties* (brigands). Water bottles and colored goggles are essentials, and dread of discomfort must be banished. Neither can one afford to be squeamish as to what is eaten or where one sleeps.

To avoid attracting undue attention, we discarded occidental headgear and adopted the *kalpack*, which has become the distinctive headgear of nationalist

MAJOR IMBRIE, ON THE BARREN ANATOLIAN PLATEAU, DRAINING THE LAST DROP FROM HIS WATER FLASK

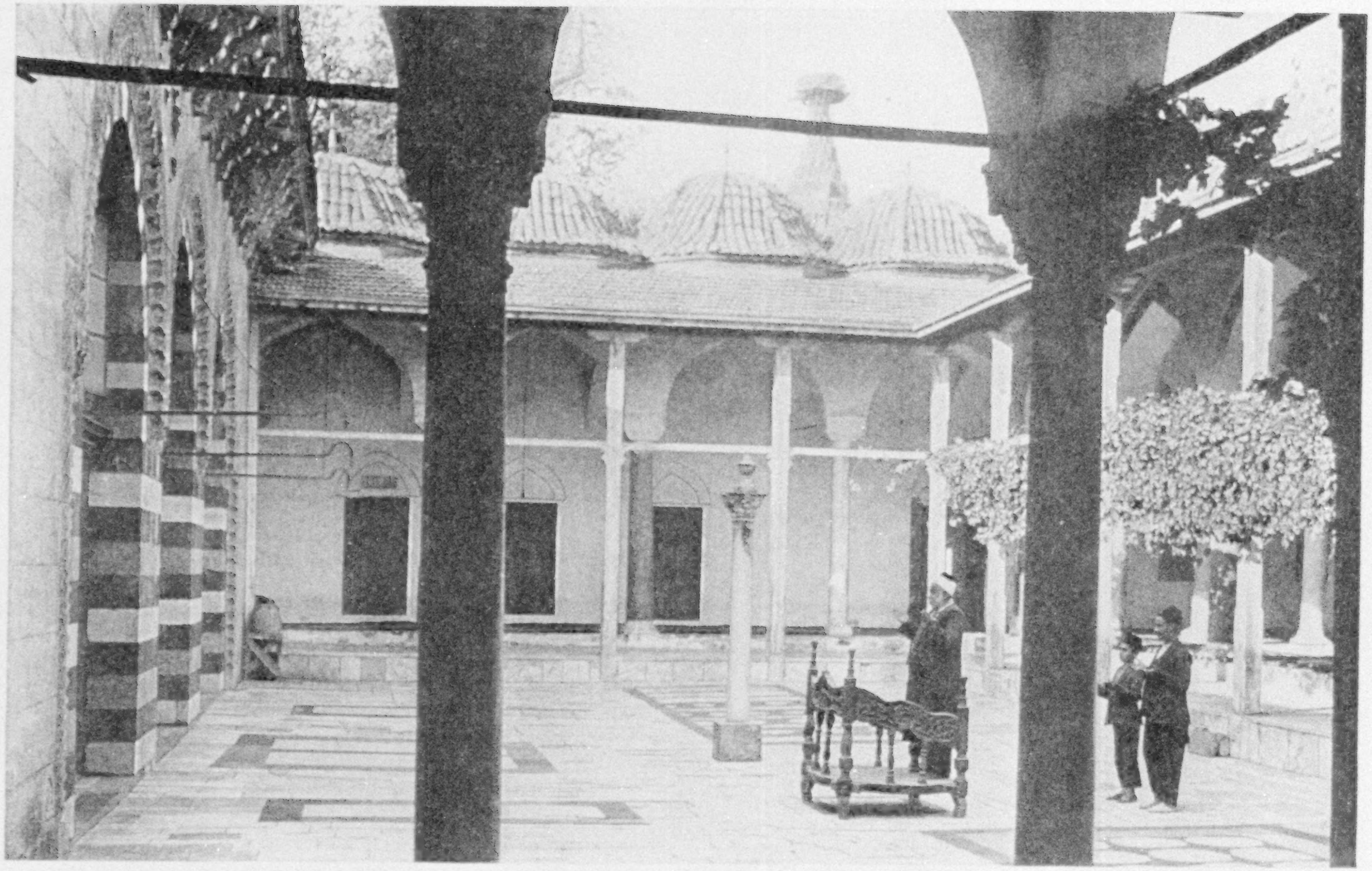
"We now left the railroad (at Konia) and, with one pack animal for three people, struck out over the plateau for Angora, 150 miles almost due north."

Photograph by the Rev. Gabriel Bretocq

A BATH IN THE SEIHAN RIVER AT ADANA

This city of 60,000 inhabitants owes its importance to the fact that it is the gateway to the Cilician plain, the most fertile land in this part of the world. It is a station on the famous Berlin-to-Bagdad Railway (see text, page 449). One of the arches in the bridge to the right is said to date from the reign of Justinian (527–565 A. D.).

XUM



Photograph by the Rev. Gabriel Bretocq

THE COURTYARD OF THE GREAT MOSQUE AT ADANA

Photograph by the Rev. Gabriel Bretocq

INTERIOR OF THE GREAT MOSQUE AT ADANA (SEE ALSO PAGE 453)

Turkey, having supplanted the fez. It has been made familiar to the world through those shown in the portraits of Mustapha Kemal Pasha, whose collection is said to number fifty.

The only redeeming quality of the kalpack is picturesqueness. In a country of searing suns and torrential rains it is wholly impractical. It is a high, flaring, brimless cone, made from the wool of the unborn Bokhara lamb, hugs the forehead, and is heavy and hot. Its color may be gray, jet black, or brown; its cost may be anywhere from the equivalent in American money of $7 to $160. As in Mexico, so in Turkey, a man's position may be judged by the quality of his headgear.

I might remark, in passing, that the Turk never removes his head covering, except, possibly, when he retires at night. At dinner, when calling, at all ceremonies or functions, the kalpack remains seated, so to speak.

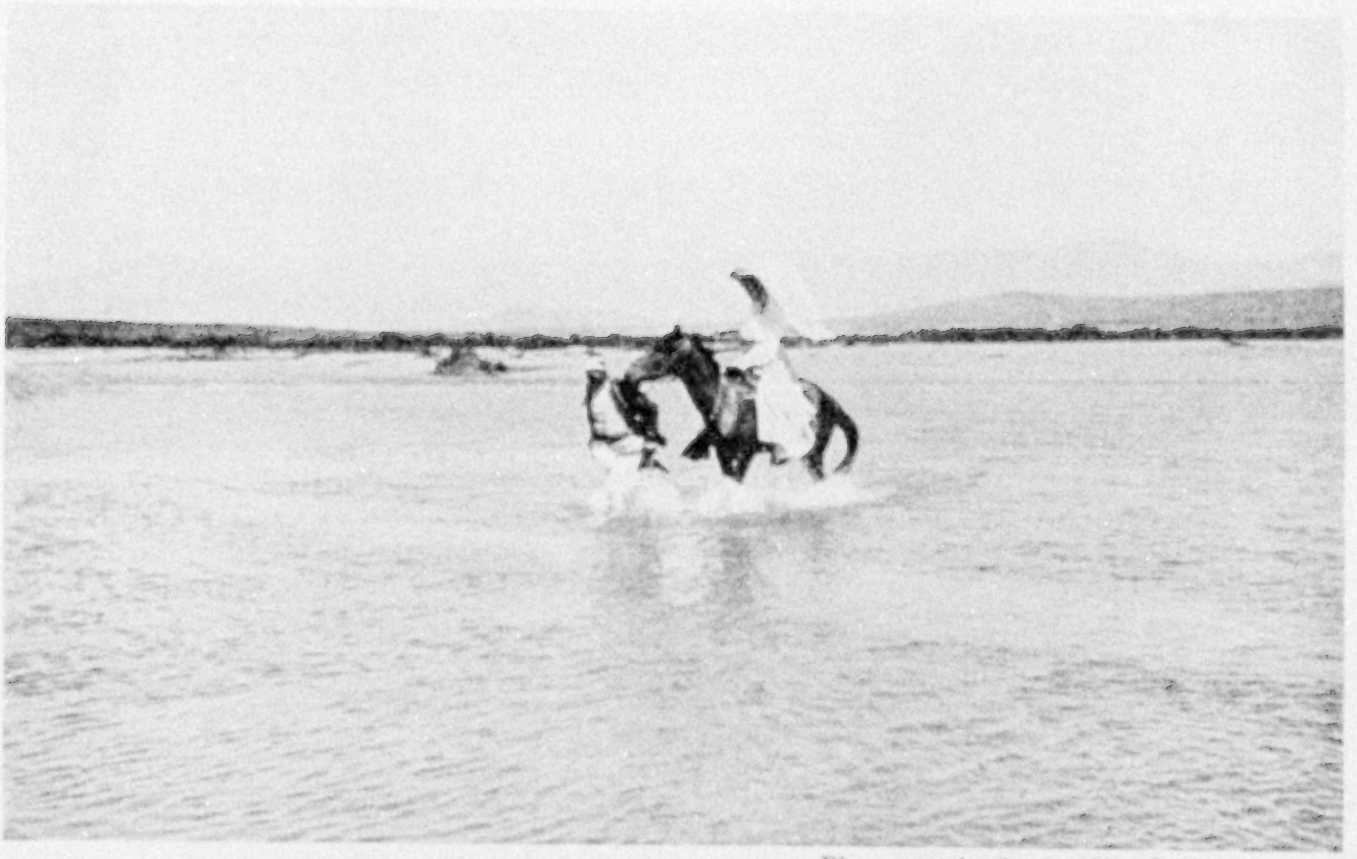
In saluting, the Turk does not remove his covering; he bends low, touches the hem of his garment, his heart, and his kalpack, the idea being he gives you the earth, his heart, and his head.

KONIA IS LEFT BEHIND

We wound through Konia's streets and past the last outlying mud-walled gardens and almost at once entered the desert. There was no road; merely a trail. Occasionally low hills broke the almost dead level, but for the most part the horizon was farflung and we could see into space in every direction. But, as the cowpuncher said of one of our southwestern States: "Stranger, here you can see farther and see less than any place in the world."

No tree or shrub, only bunch grass, broke the monotony of the landscape.

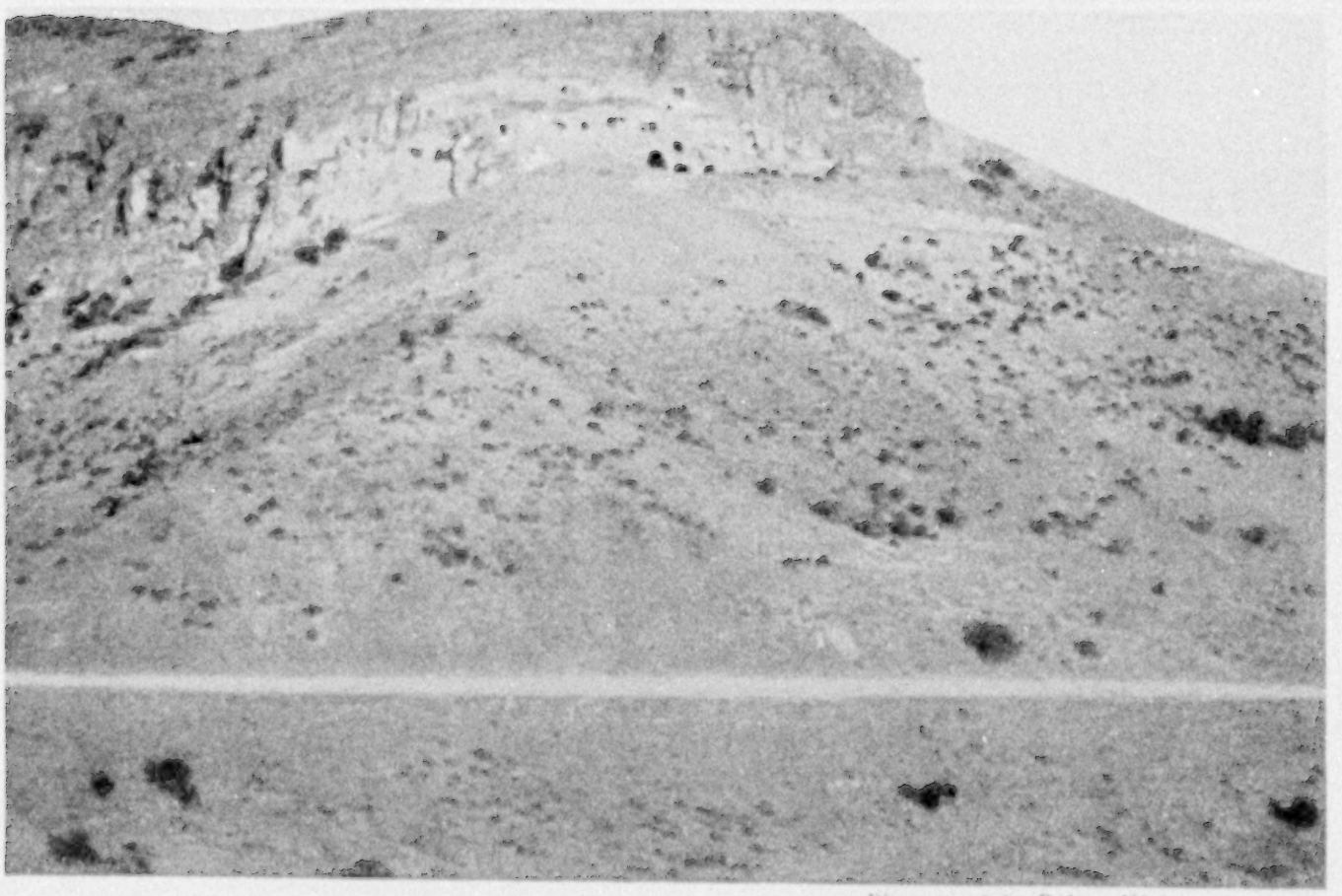
All day, save for a glaring noon at a well, we slogged along. In riding like this, with nothing to disturb the monotonous gait of the horse and the creaking of saddle leather, with simmering heat waves rising from a dreary landscape, one moves along in a kind of dream, and existence itself seems unreal.



Photograph by Stephen Van R. Trowbridge

CROSSING A SMALL RIVER SOUTH OF THE TAURUS MOUNTAINS

During the spring freshets this stream can be forded only in certain places known to native guides.



Photograph by Robert Whitney Imbrie

PREHISTORIC CAVE DWELLINGS IN ANATOLIA

See also "The Cone-Dwellers of Asia Minor: A Primitive People Who Live in Nature-made Apartment Houses, Fashioned by Volcanic Violence and Trickling Streams," by J. R. Sitlington Sterrett, in THE GEOGRAPHIC for April, 1919.

Photograph by Robert Whitney Imbrie

A MENDER OF OLD SOLES IN THE NEAR EAST

There is a striking absence of the middleman in Turkey. When a Turk wants a new pair of shoes he goes to an open-air shoe parlor like the one in the photograph and has them made to order; if his wife wants a saucepan she sends her husband or her servant to describe just what she wants and bargain for the lowest penny. The merchant does not deliver his goods and the formality of wrapping paper is entirely done away with. The American oil can in the foreground has become the bottle, box, and basket of Turkey, Mesopotamia, and Arabia.

The next afternoon we sighted, far in the distance, a snow-white carpet. It proved to be the salt-encrusted shore of the Tuz Cheullu (the Great Salt Lake), the largest sheet of water in Asia Minor, with a circumference of approximately 90 miles. Its shores are a solid crust of white salt and the reflection is blinding. For nearly three hours we kept the lake in sight and then, our trail leading northward, we dropped it.

CAMELS TIED HEAD TO TAIL

Shortly after leaving the lake, skirting some barren hills, we encountered our first caravan of camels. Tied head to tail and led by a diminutive burro, they grunted along. With mincing step and a supercilious sneer on their countenances, they maintained such a superior air of satisfied arrogance as to goad the beholder almost to frenzy. In my experiences, the camel is the meanest animal known to Nature. Every one that I have known has had a disposition that would curdle cream at 40 rods. If Noah had two of these beasts on the Ark, I'll wager he was glad to disembark, and if Job had 3,000 of them, as we are told, he is entitled to all our sympathy.

Photograph by Robert Whitney Imbrie

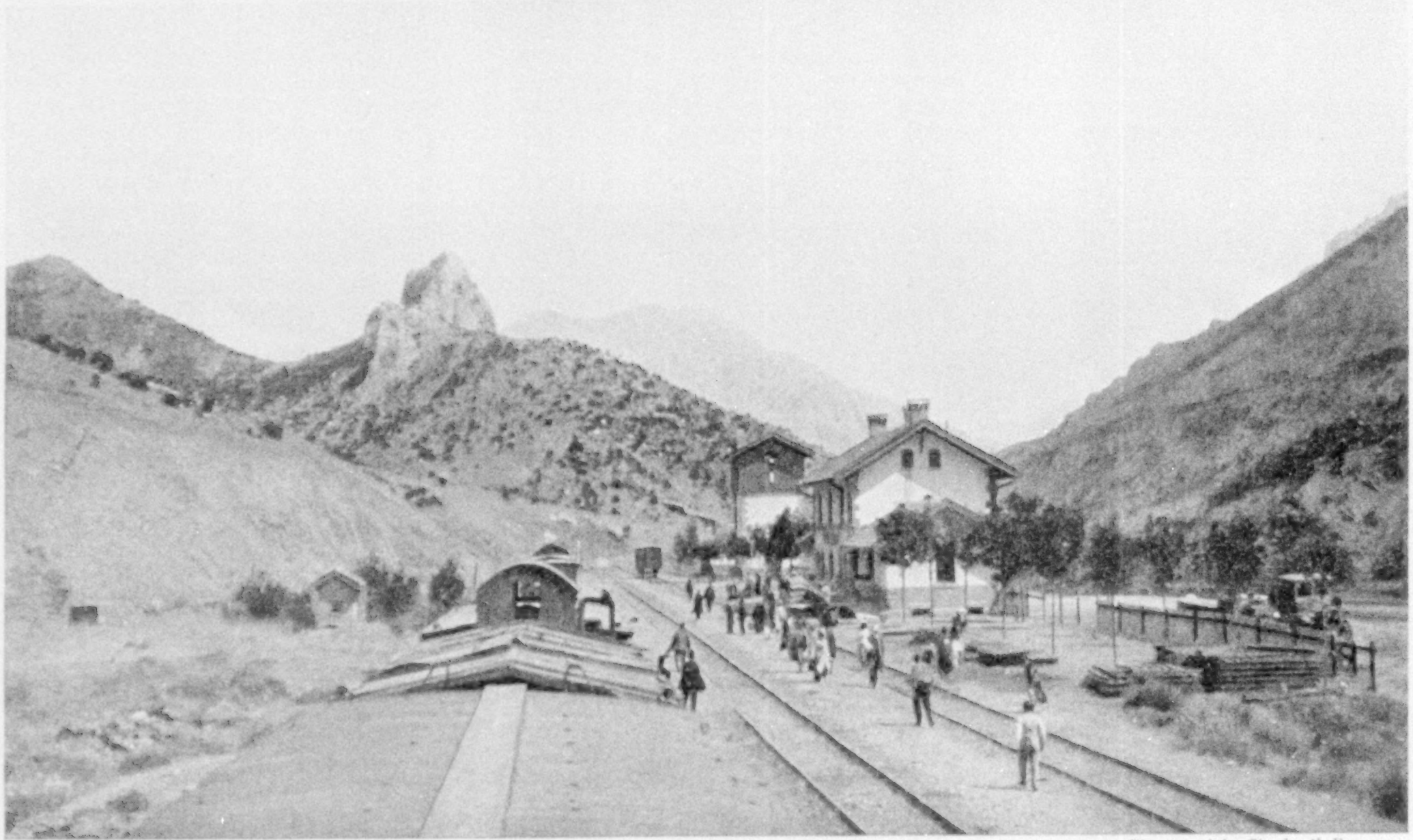
HOW ANATOLIAN PEASANT WOMEN WIELD THE HOE

If it were not that the soil of most of the cultivable land in Asia Minor is extremely fertile, the Turkish peasant would find it almost impossible to make a living, for his agricultural methods, as well as his implements, are very primitive. The climate is his ally, however, for, although the winters are cold, the sun is excessively hot early in the year and there is practically no spring. His greatest handicap is the tax-collector, who is merciless in his exactions; in fact, the small agriculturist in Turkey was said at one time to have been the most highly taxed individual in the world.

For several days we rode across the haggard face of the landscape, and at last, late one afternoon, we topped a rise, and there below us lay Angora. We were approaching from the west and the last rays of the setting sun painted the city in a rose glow. Its minarets, its battlements, its walls and towers stood out much as they must have done when the Crusaders rode against them, for the swing of the pendulum through the arch of centuries has brought little change to Angora.

Few cities can boast of more history. There is a record of a battle fought here three hundred years before the birth of Christ. To-day, in the walls of its citadel, themselves seven centuries old, may be seen many blocks, fragments of Roman temples, which were ruins before the construction of these walls was begun.

From a distance Angora is most imposing. Crowning a hill, the old town is crowded within a series of wall-connected towers and the houses sprawl in slipshod

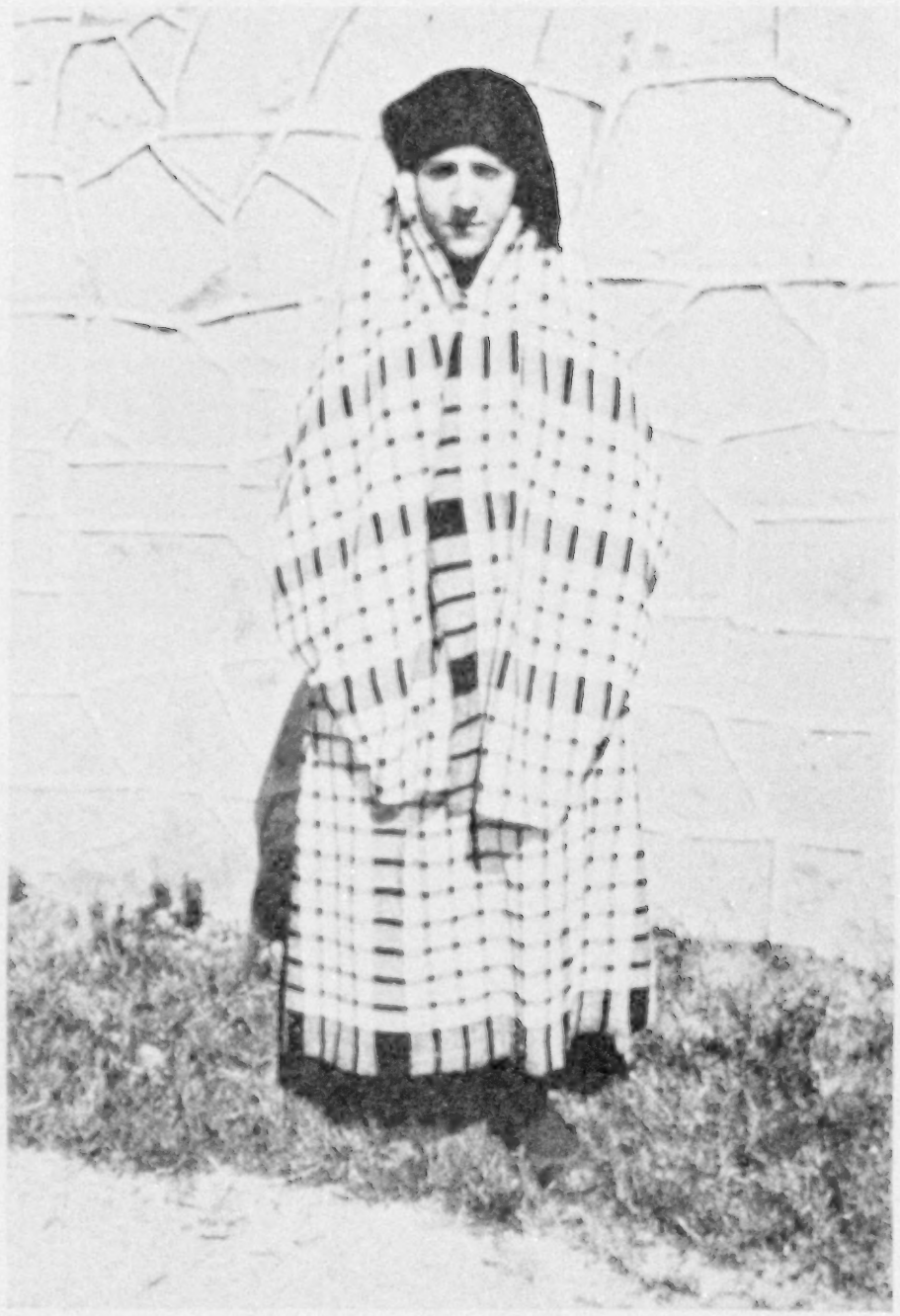


Photograph by Charles E. Beury

THE BAGDAD RAILWAY NEAR THE TOP OF THE TAURUS MOUNTAINS (SEE MAP, PAGE 450)

"The iron bone on which Germany's jaws were so firmly set" before the World War (see page 449). In the southern portion of the peninsula of Asia Minor a crescent-shaped range, the Taurus Mountains, turns its back to the Mediterranean.

XUM



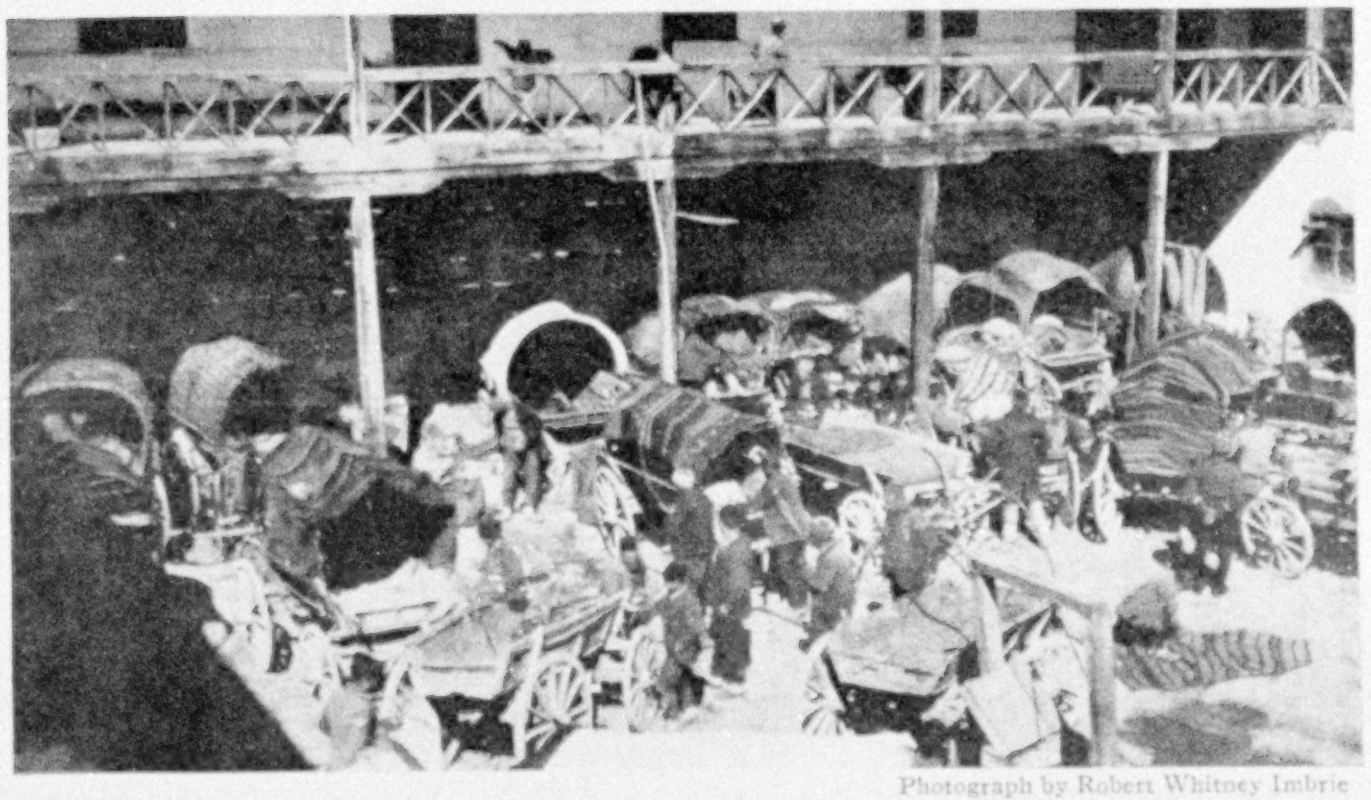
THE "TCHARSHAF," NATIONAL COSTUME FOR WOMEN

This particular pattern is now worn only by women of the interior of the new Turkish Republic.

Photographs by Robert Whitney Imbrie

A PEASANT TYPE OF ANATOLIA

He greets the stranger with kindness, and his hospitality, though frugal, is whole-hearted.



Photograph by Robert Whitney Imbrie

THE INTERIOR OF AN ASIA MINOR KHAN

There are no hotels in the land of the Turks. The traveler rests in a khan, the oriental variant of an inn—a courtyard inclosed by a mud wall, with a two-story structure on one side, the lower story used for a stable and the upper for guests (see text below).

fashion down the hill to the swampy plain below. But, as in most of the towns in the Near East, the beauty of distance is lost in the squalor of proximity.

The débris-cluttered streets wind about between two-story mud houses. There is no sewerage system; there are no sidewalks. In winter there is mud fetlock deep, and in summer dust. At night, Angora, like all Turkish towns, is as dark as the inside of a camel, for there is no system of street-lighting.

The shops are tiny affairs with the most primitive of stocks. There is no bazaar worthy of the name. It is impossible to buy a chair, a table or a bed, or the simplest household article.

THE WORLD'S ATTENTION FOCUSED HERE

Five years ago, to an American, or, for that matter, to the world at large, Angora stood for nothing, save as the name of a certain breed of goat or cat. To-day its fame has spread round the world. Once more, as in centuries past, its name is recorded in bold type on history's page.

As the capital of New Turkey, this ancient little town has been the focus of attention. Until recently it has been one of the world's most inaccessible capitals. It could be reached only by roads long fallen into disrepair or trails such as the one over which we had just come. Besides our route from the Mediterranean, closed in winter, there was the road from Ineboli, the little Black Sea port, and the road up from Ismid, on the Sea of Marmora. In any instance it meant a trek of 200 miles across open, sparsely-settled, and bandit-infested country.

In this isolated, uncomfortable town the affairs of New Turkey are conducted. In a small building, somewhat resembling a very modest American country clubhouse, meets the Grand National Assembly of Turkey. Here the farmer sits with the *hodja* (teacher), the dervish with the soldier, and the professional man with the merchant in democratic conclave.

But while we have thus digressed the sun has been sinking.

As we clattered up Angora's main street, the muezzins were calling the faithful to evening prayer. Darkness was almost upon us and we sought shelter.

NO HOTELS IN ASIA MINOR

There are no hotels; in all Asia Minor there are no hotels. We must go to a khan (see above and page 447).

WINNOWING GRAIN

Photographs by Stephen Van R. Trowbridge

AN ASIA MINOR WHEAT MARKET

Hours are spent here in making a single bargain. Boiled crushed wheat and bread are the staple articles of food throughout the country.

FREIGHT TRANSPORT IN ASIA MINOR

Photographs by Robert Whitney Imbrie

"SEVERAL TIMES WE PASSED LONG CARAVANS OF CAMELS"

Through Sivas runs the Great Road of Asiatic Turkey, the road over which, since history's dawn, have passed the caravans from Bagdad to Constantinople, a road now fallen into disrepair, but still enormously important as a trade route from the Black Sea coast to the interior. The camels, nearly always tied head to tail and led by a diminutive donkey, grunt along with a supercilious sneer upon their lips.

Photograph by Robert Whitney Imbrie

ONE OF THE DISK-WHEEL CARTS OF ANATOLIA

Such a vehicle, with its buffalo team, travels at the rate of a mile and a half an hour.

A khan, be it known is the oriental idea of an inn, and a very poor idea it is. Usually, almost invariably, it takes the form of a mud-wall inclosed courtyard, one side of which is formed by a two-story structure. The lower story is a stable; the upper story is occupied by the more opulent—and more unfortunate—of the khan's guests, for many there are who camp in the open courtyard.

In a khan the guest must bring everything—food, bedding, drink. The management furnishes nothing but shelter—provided the roof doesn't leak—and bugs. These latter are always in stock.

FIRST EXPERIENCES IN A KHAN

I am now able to recall with amusement my first experience with the khan. I was new to Turkey, new and full of illusions. We were riding in from Ineboli, on the Black Sea coast, heading toward the Ilkaz Mountains. At noon my dragoman said, "To-night, Bey Effendi, we shall stop at the finest khan in Anatolia. It is so known throughout Asia Minor."

I was somewhat perturbed. I was in riding clothes, dust-covered and dishevelled, with a gun slanted across me. I pictured myself walking into a modern hotel in this condition and the disdain with which I would be regarded by the management. I made up my mind that, provided I should be admitted, I would have dinner in my room and not intrude myself into the public halls.

Toward evening we came to a large log building. We were near the mountains and timber was plentiful. A couple of water buffalo stuck their heads out of a lower window and inspected us with interest. A flock of sheep was just passing into the courtyard. Some fowls were ascending a slanting gangway preparatory to retiring for the night. Out in front an old Turk was engaged in washing his feet.

"Some barn!" I thought.

"This, sir," said my dragoman, with an air of pride, "is it."

"And what may *it* be?" I queried.

"Why, the khan, sir, the best one in Asia Minor!"

Photograph by Robert Whitney Imbrie

THE CITADEL OF ANGORIA, WHOSE WALLS ARE SEVEN HUNDRED YEARS OLD (SEE TEXT, PAGE 457)

And much subsequent travel in Anatolia has confirmed me in indorsing his statement.

A JOURNEY TO SIVAS

Unless one is interested in international politics or in watching the governmental machinery of an infant nation, there is little in Angora to hold the attention.

Our next objective after Angora was Sivas, which lies almost due east more than 200 miles across the Mysian plateau. The direct road passes through Yozgad, and normally this would be the route to follow. But things normally are not normal in Asia Minor and we were warned that the Yozgad road would be closed by brigands. Having small desire to be stranded in the middle of Asia Minor without horses, equipment, and, perhaps, clothes, we decided to proceed to Sivas by way of Kaisariye, a detour to the southeast which increased the distance some 80 miles.

Before sun-up one morning we swung into the saddle, rode unregretfully out of the khan yard, and headed southward into the misty hills.

We rode for three hours through dry water-courses and rocky gorges and then reached a small salt lake, around which were clustered the few huts of a poor village.

From here all day, like Hajji Baba, "we advanced over a parched and dreary country that offered little to relieve the eye or cheer the heart." Toward evening we reached the Kizil Irmak and crossed it by a picturesque arched bridge. At the south end of the bridge a disfigured stone lion, dating from Roman times, stands guard. In the bridge itself are fragments of ancient masonry.

A DESOLATE LAND

Though the Kizil Irmak is one of the most important rivers of the plateau, at the point of our crossing we could throw a stone from one side to the other. The river here passes through a narrow gorge. We ascended the north bank and entered a Turkoman village, having ridden 40 miles since dawn.

The country beyond the river is a lonely one. Vast bowllike depressions stretch away with nothing to relieve the eye. We seldom encountered any one. A great stillness prevailed; there was no movement, save when a passing breeze tossed the tumble-weed. But there was distinct beauty born of the very desolation. There was a solemn grandeur about the sunsets in this land, and it was very wonderful to ride forth in the morning and see the sun burst from behind some naked hilltop and turn the world from gray to amber.

On the afternoon of the third day out from Angora we rode through the khan

AN OLD MAN OF THE ILKAZ MOUNTAINS

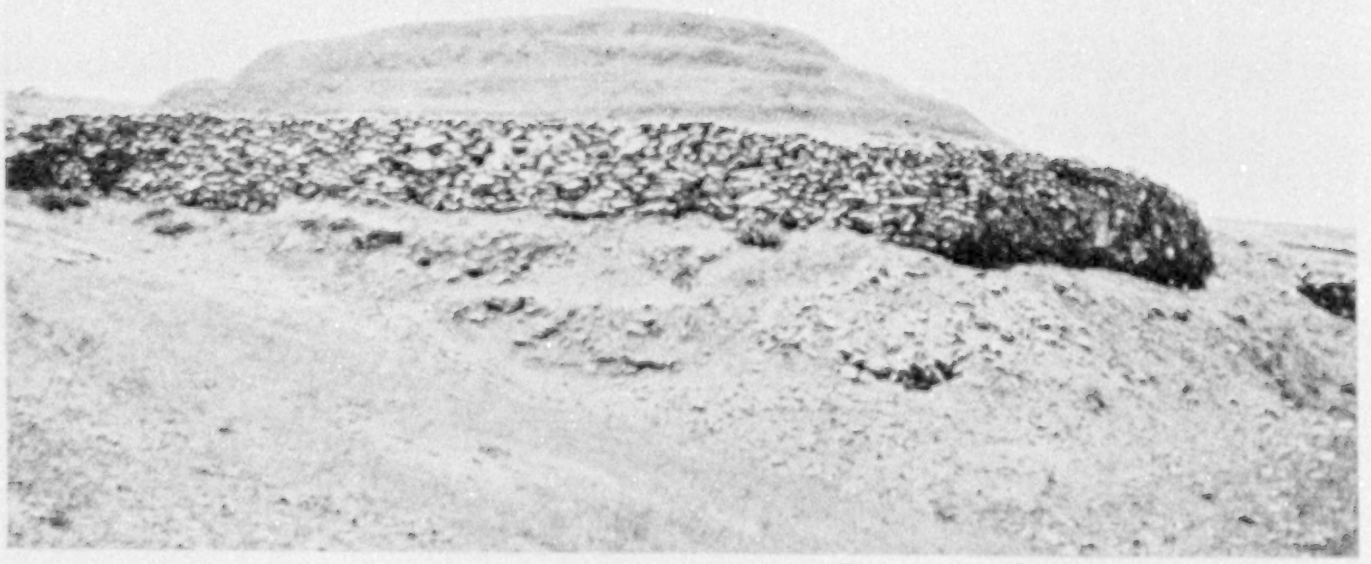
Photographs by Robert Whitney Imbrie

SMILES FOR THE WESTERN WORLD FROM THE ILKAZ MOUNTAINS

The home of these Turkish women lies on the plateau between the Kizil Irmak and the Yeshil Irmak (see map, page 450), which is intersected by a series of mountain ranges running from southwest to northeast. A few peaks in the Ilkaz Mountains reach an elevation of 6,000 feet.

Photograph by Robert Whitney Imbrie

PEASANT TYPES OF ANATOLIA MET ON THE ROAD CROSSING THE ILKAZ MOUNTAINS



Photograph by Stephen Van R. Trowbridge

A COLD-STORAGE MOUND IN ASIA MINOR

In winter snow is collected and packed in the recess behind this stone rampart. It is then heaped over with straw, to be kept for use in the heat of summer. Ice is practically unknown.

Photograph by Robert Whitney Imbrie

TWO "HAMALS," OR PORTERS, OF ASIA MINOR

These men serve an apprenticeship and become proficient in carrying for long distances almost any article that can be fastened on the leather saddles strapped to their backs. The hamals and members of various other trades, crafts, and callings have trade unions, called guilds, for their mutual protection and support. When a hamal has served his time as an apprentice, he is recommended by the expert under whom he has served to the master of his particular lodge of the guild, his admittance being attended with certain traditional ceremonies and the payment of a fee.

gates at Kirshehr. Kirshehr is the only town of any consequence on all the long way from Angora to Kaisariye. It is a town of little tumble-down houses, but the dreariness of its aspect is somewhat relieved by a number of fine gardens and some poplar trees. In a little square in the center of the town much bartering was going on.

THE MYSTERIES OF TURKISH COOKING

We dropped into a tiny restaurant, typical of all Turkish restaurants, which are among the worst in the world. Over individual charcoal fires rested several copper bowls. In these simmered and muttered the inevitable mutton, the fatal *pilaf* (rice cooked in tallow), and a kind of squash resembling saddle soap.

On a series of stone shelves, one above the other, were tiny charcoal fires, and before these, on a vertical spit, roasted more mutton.

Over the door was a sign which stated, in Arabic characters, "I do my utmost; the rest I leave to Allah." Turkish cooking is mysteriously complex. Most of the dishes are morbid, some only quaint. The startled palate of the occidental sojourner in this land is fated to receive some terrible shocks. A Turkish meal stands not on the order of its coming. A meat follows a sweet; a vegetable follows a pasty, and then another sweet is liable to come trekking in with a soup.

THE NATIONAL DANCE OF ANATOLIA

It was at Kirshehr that we first witnessed the national dance of Anatolia. As we were sipping our coffee in a little coffee shop after dinner, a Turkish colonel came over and saluted. He had learned that there was an American in town and he had come to invite us to see the dance.

We were glad to accept, and, stumbling along in the wake of our host—one never really quite knows what absolute black-

Photograph by Robert Whitney Imbrie

AN ANATOLIAN PEASANT OF THE ILKAZ MOUNTAIN DISTRICT

ness is until he endeavors to make his way through the unfamiliar ways of a Turkish town at night—we presently came to a wide-open space.

A large bonfire lighted the scene and showed in high relief the faces of 500 soldiers grouped about in a circle.

Seats were brought for us. Presently a drum began to thump, then the plaintive note of that instrument which seems to be peculiarly the voice of the East, the hautboy, began to wail.

A dozen men, their arms about one another's shoulders, advanced into the circle and began the dance. It is impossible to describe the step, part shuffle, part prance, part wiggle. The only dance I have ever seen that even faintly approximates it is the Rain Dance of our Navaho Indians.

The dance continued for an hour, but so wild and picturesque was the scene that we did not count the time. Finally the cadence of the music changed and the dozen men dancers were supplanted by two who, facing each other, began the wild steps of the Spoon Dance. Each of these dancers was supplied with two pairs of wooden spoons, the kind that every Anatolian peasant carries stuck in his stocking leg. These spoons they clashed together with a clinking noise like that given off from castanets, and at the same time the performers twisted and writhed about. Every movement was watched with careful eye by the audience who viewed it with the air of critical experts.

Wrestling followed the dancing, the wrestlers occupying themselves more with grotesque convolutions and hand slapping than with actual wrestling.

How long the performance continued I do not know, but, as we rose to leave, a new group of dancers was entering the circle, and as we stumbled through the night back to our khan the throb of the drum and the wail of the hautboy came faintly to our ears.

We left Kirshehr and journeyed southeastward over the same kind of lonely open country. Sometimes so great was the visible space ahead that it seemed as if we must be looking clear across into Persia.

SNOW-CAPPED MT. ARGÆUS IS SIGHTED

Again we made the crossing of the Kizil Irmak, this time over a bridge built by Mohammed II, and that night, when we stopped at a small village, ahead of us lay the plain of Kaisariye (Cæsarea of the Bible).

The plain's gigantic guardian, Mt. Argæus, in the distance raised its snow-capped head some 13,000 feet in the air. Argæus is the highest mountain in Anatolia. Its ascent is not particularly difficult and may be made in three days.

At the foot of the mountain lies Kaisariye, one of the oldest towns in the world. At one time it was the seat of the kings of Cappadocia, addressed by Peter in his First Epistle. Two and a half centuries after Christ its population was 400,000; to-day it has scarcely one-sixth that number.

For a Turkish town it is well built. Many of the houses are solidly constructed of stone, but its narrow, corkscrew streets double about in a most amazing and confusing way. Through them, beneath the screened, overhanging balconies, pass camel and mule caravans, herds of sheep and goats, cavalcades of horsemen, and all the varied life of the East. Once on the great trade route from Ephesus to the Euphrates, even to-day Kaisariye is the emporium for eastern Anatolia.

In the swarming bazaar we inquired of a merchant as to what the town specialized in. "Before Allah, everything," he said. Civic pride is not confined to America.

A HORSEMAN OF THE PLAIN

One bright, glaring morning, with Mt. Argæus at our backs, we rode out of Kaisariye toward the northeast, after passing the town of Talas, which was old in Byzantine times. The barren country continued and water was scarce.

After the second day the country began to change its aspect. Occasionally we would cross a small stream bordered by cottonwood trees.

We began to meet more people—a cape-draped horseman, long dagger slanted across his hip, carbine in hand, who perhaps had been three months in the saddle on his ride from Persia, or an old lady atop a buffalo cart, its ungreased wooden wheels shrieking to heaven, spinning along at the dizzy rate of a mile and a half an hour.

Listening to what in Turkey passes for music, I have often wondered if it did not have as its theme the syncopation of the oxcart screech.*

Now and then we were fortunate enough to find a clump of trees by a spring at which to rest at noon.

* See also "East of Constantinople," by Melville Chater, in the NATIONAL GEOGRAPHIC MAGAZINE for May, 1923.

One evening we rode into the village of Shehr Kishla. It is a sad little place, with a miserable khan, and there was little of interest save some curious tombstones, shaped exactly like gigantic flasks. Shehr Kishla enjoys another distinction: it is the geographic center of Asia Minor.

MANY TALES OF BRIGANDS

At Shehr Kishla, the khanji, a genial old fellow, brought us some delicious melons and, as we bathed in them, he entertained us with stories of cheeties and elaborated on the dangers of the way ahead. It would be better, he said, to remain at his khan, where we would be as secure as under our own vine and fig tree, until our party was augmented by other travelers.

We were always hearing these tales of cheeties, and, though on one occasion the party just ahead of us and the party following were wiped out to a man, through five traverses of Asia Minor our outfit never suffered molestation. We felt, therefore, that the old khanji's solicitude for our welfare was born of his desire that we further patronize his khan rather than of real anxiety as to our safety on the road. So we cast off again.

We rode through a land forlorn, between bare hills, and with never a tree in sight. By nightfall we reached a Turkish village, were assigned the guest house, and assured that we "brought joy." It was a fortunate thing in some of these villages that we had brought something besides joy, for the accommodations were not elaborate. However, friendly hospitality makes up for much.

At this village we added a new dish to the list of gastronomic horrors which we had already experienced. "Bulgar," it is called, and is some mysterious preparation of wheat. The rites coincident to its construction baffled our understanding, but we were told that its manufacture is a matter of some days' labor.

SIVAS' LURID HISTORY

We were now less than 30 miles from the town of Sivas, and so, getting an early start, we left the pack horse to follow with the orderly and pushed ahead. The road climbed steadily, and by 10 o'clock we had reached an altitude of 5,600 feet, where we traversed a pass. We crossed

another range of sterile hills and from these beheld the town far away in the valley below.

Winding down, we forded a muddy stream and at high noon, under a burning sun, passed below the citadel-crowned hill and made our way through the swarming streets (see page 472).

Sivas has had a lurid history. Pompey, Diocletian, and Justinian held it. Under the Seljuks it reached its greatest prosperity and its population was reckoned at 100,000 souls. In the eleventh century it was captured by the Turkomans, a century later by the Seljuks. Rebuilt in 1224, it was besieged in 1400, finally passing into the hands of the Osmanli.

Many reminders of bygone civilizations there are in and about the town. Among the best preserved and most interesting are the numerous minarets, dating from the eleventh century, but still solid, dignified, and beautiful. They present, perhaps, the finest examples of Seljuk art remaining in Asia Minor (see page 471).

STREETS SWARMING WITH THE LIFE OF THE EAST

The Sivas of to-day, a town of 65,000, is wholly Turkish and Kurdish, and therefore picturesque. Its streets swarm with the life of the East. There is an endless amount of going and coming, though no man seems to know what it is all about. The curb market is very active. Formerly the place was noted for its silver work, but now this art, like so many of the arts of Asia Minor, has lapsed. Even to-day, however, one may occasionally find exquisitely wrought chains, to be had for the value of the silver in them, the modern dandy preferring the imported machine-made chain as being more swank.

The bazaars are interesting. Squatting cross-legged on a divan, sipping Turkish coffee, and smoking a Samsun cigarette while examining the unusual wares is not the least interesting of pastimes. One is never urged to buy; there is no loud-voiced extolling of articles, such as one encounters in the bazaars of Istamboul (Constantinople). The goods are there; you can see them. If you wish to buy, the price is thus and so. If you do not care to buy, so it has been decreed by Allah. Say no further, for is not to-morrow also a day, and is not man but a road over which the events of life, both good and bad, pass?

THE GREAT ROAD OF ASIA MINOR

Through Sivas passes the Great Road of Asia Minor, the road over which for centuries the caravans from Bagdad to Istamboul have passed. Though it has now fallen into complete disrepair, it is still enormously important as a trade route from the Black Sea to the interior. It was over this road we started one morning headed for the Black Sea and Samsun, 200 miles away.

In two easy stages we made the town of Tokat, having made a descent of some thousand feet. Here for the first time we saw corn growing.

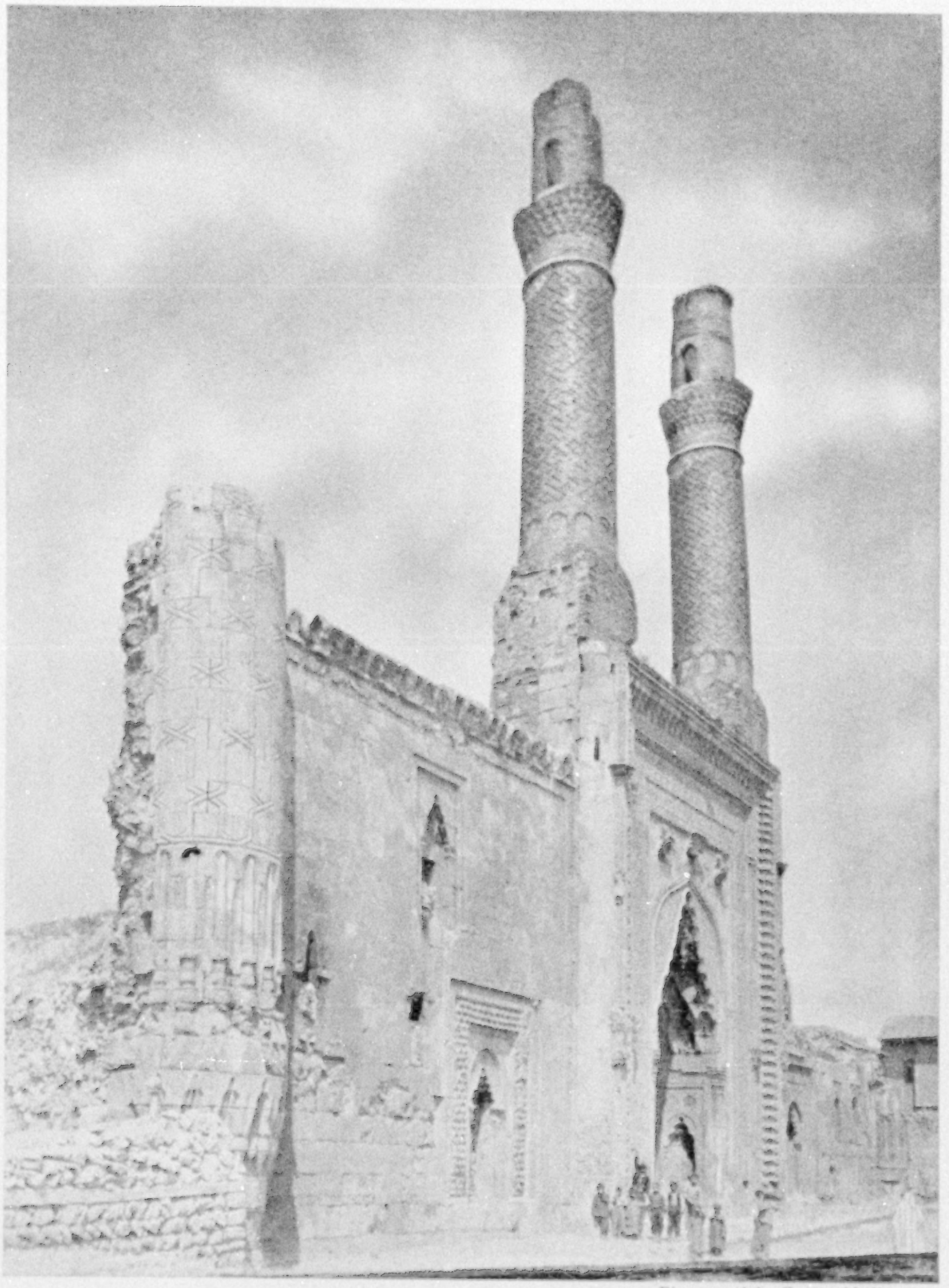
Those of you who are familiar with that famous classic of eastern life, "The Adventures of Hajji Baba," will remember that it was at Tokat that Hajji Baba was last seen. Though that quaint character must long ago have been gathered unto his fictitious fathers, his prototypes were in the khan at which we stopped. Indeed, in all probability it was the same khan where Hajji was afflicted with sore illness and expected to die on the third day and where he took the calomel with such happy effect.

From Tokat to Amasia is one long or two short stages—about 55 miles—and it was our intention to make the distance in one day. But a late start and the vicissitudes of the road, as well as trouble with the pack animal, so delayed us that we had not made more than half the distance when at 2 in the afternoon we crossed the swift Yeshil Irmak (the Iris of the ancients) and rode beneath the over-towering castle which sentinels the town of Turkal. Like many other towns of Asia Minor, Turkal is short on conveniences, but long on history. But we quite forgot the discomfort in admiring the Byzantine castle, its walls flame-lit by the dying sun.

AMASIA RESEMBLES A STAGE TOWN

From Turkal we penetrated a wild, wooded country, following a narrow cut, and then descended into an open valley. From here in the distance we could discern a high crag surmounted by a castle.

For some distance our route paralleled



Photograph by George M. Kyprie

A SELJUK MOSQUE WITH FALLEN MINARETS IN SIVAS

The colleges and mosques are the most pretentious and interesting buildings in Sivas, one of the largest and most important cities in the interior of Asia Minor. Several of the mosques are now merely fragments, but their warm-tinted yellow stone and occasional brickwork, their deep doorways, with elaborately carved panels, their sky-blue tiles and tapering minarets, help to keep up the traditional reputation and atmosphere of the East.

XUM

Photograph by Robert Whitney Imbrie

A STREET IN SIVAS

The Sivas of to-day is Turkish and Kurdish. Years ago it was noted for its silver work, and even yet some of the ancient exquisitely wrought chains may be purchased for the bullion value. On one of its streets there are booths where the curious Sivas cigarette holders, many-jointed and sometimes reaching a length of six feet, are made. The bazaars, though small, are among the most interesting in Anatolia. In them everything from ancient coins, amber mouthpieces, and knives to crystal vials for attar of roses, may be purchased.

an ancient aqueduct, and shortly afterward we rode into Amasia, said to be the most picturesque town in Asia Minor. Its reputation is deserved. Its appearance is that of a stage town, a setting for a mediæval drama. Almost one expects to see a knight in full armor, with lance set, wind his way down from the castle—a castle which was already ancient when it withstood a siege seven centuries ago. One can still see the rock-hewn passage, leading to the river, through which the garrison brought its water supply.

Below the castle, cut from the face of the living rock, are five remarkable tombs. They are known as the Tombs of the Kings and are believed to date from the third century before Christ. Near by are many Roman ruins, a Roman sarcophagus, and walls of Roman construction.

The modern town blends well with its setting. The mosques, the bazaar, the rug-walled coffee houses, the stone bridge, the gardens, the clock-tower, all mosaic into a picture.

We would have liked to tarry a while here, but our mission would not permit, so we passed out of the Bagdad of Rum over the old stone bridge on the Great Road, bound northward toward the sea. For a time we followed the valley and then entered the mountains again, climbing from the plateau to its encircling brim.

We were now in the district where some of the finest cigarette tobacco in the world is raised—the famous Samsun leaf. So limited is the production of this tobacco, and therefore so valuable is it, that in America we get it only as a blend.

One more night halt we made at the town of Khavsa, whose hot springs were known to the ancients, and then, climbing once more, we crossed a ridge at 2,700 feet and saw below us the Black Sea.

Late in the afternoon we rode wearily into Samsun, our traverse of Asia Minor completed.

In this journey we had endured much of discomfort, a little of hardship, met the extremes of heat and cold, been mired in mud and smothered in dust, but we had met with courtesy and kindness.

Tomato Soup requires all the skill our famous chefs bestow upon it!

In such a delicate matter as pleasing the fastidious palate, the soup chef must be *exactly* right. Let him err but a trifle, and it tells at a taste.

How delicious a tempting plate of tomato soup is! Yet how apt you are to feel that there is something lacking—something which just prevents you from enjoying it fully and completely, as you do Campbell's Tomato Soup.

Campbell's study the tomato from the seed to the soup—grow it on their own farms—use only the perfect fruit—blend it after their own exclusive recipe.

Campbell's is tomato soup Perfection!

We blend the best with careful pains
In skilful combination
And every single can contains
Our business reputation.

21 kinds
12 cents a can

To-morrow's Telephones

So vital a factor has the telephone become in American life that the demand for it would undoubtedly grow even without increases in population. New businesses are founded; others expand. New homes are established in town and city, in suburban dwellings and apartment houses.

To meet the needs of America, to-day and to-morrow, with the best and cheapest telephone service, is the responsibility of the Bell System. The telephone will grow with the population and prosperity of the country, and the plans of to-day must anticipate the growth of to-morrow.

The service which is given to-day was anticipated and provision was made for it, long in advance. Money was provided, new developments were undertaken, construction work was carried through on a large scale. The Bell System, that is, the American Telephone and Telegraph Company and Associated Companies, has continuously met these requirements. It has enlisted the genius of technical development and the savings of investors for investment in plant construction.

Over 315,000 men and women are owners of the American Company's stock and over half a million are investors in the securities of the System. With a sound financial structure, a management which is reflected in a high quality of telephone service, the Bell System is enabled to serve the increasing requirements of the American public.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

AND ASSOCIATED COMPANIES

BELL SYSTEM

One Policy, One System, Universal Service

The Most Luxurious Candy

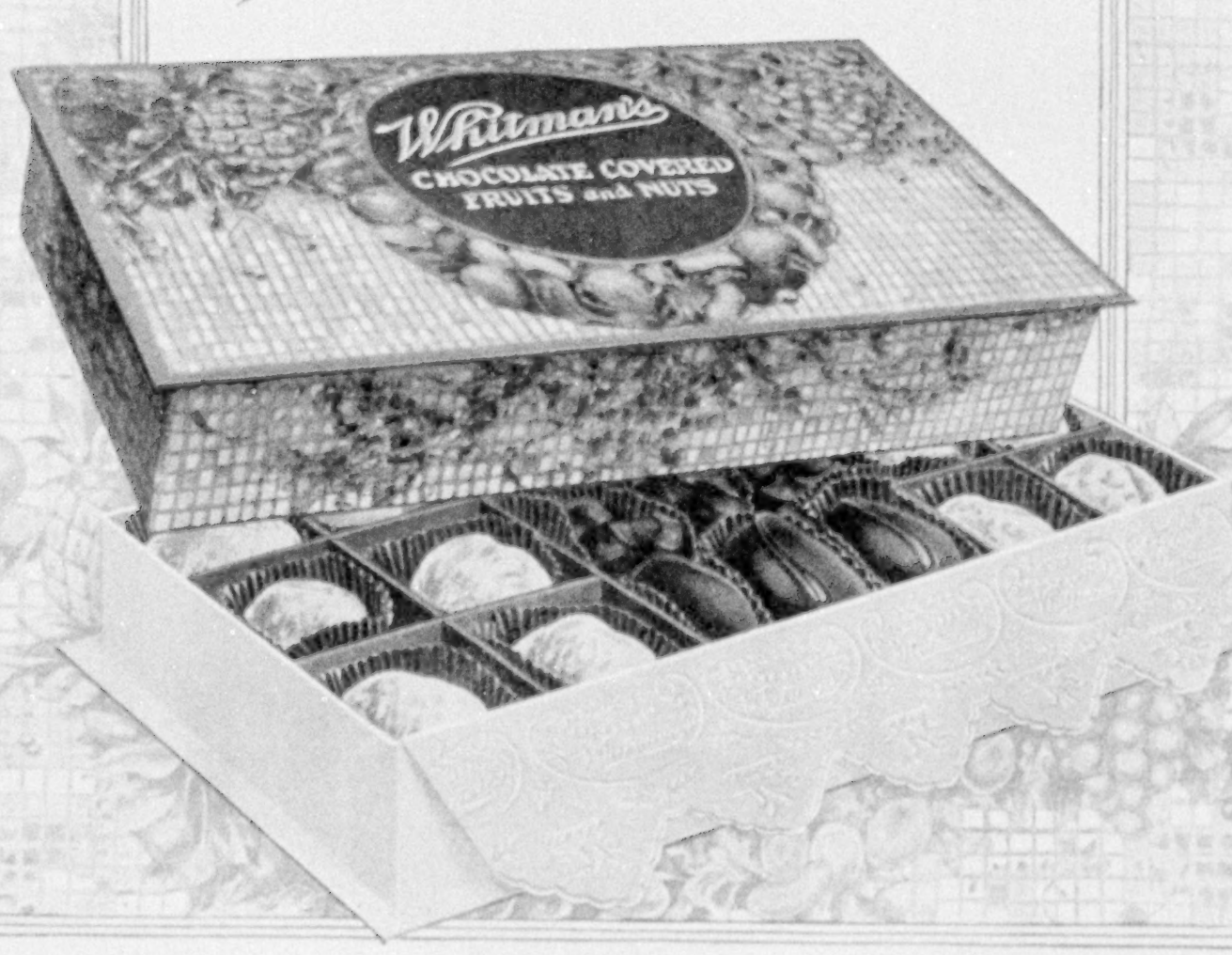
Maraschino cherries, of happy memory, and characteristic "tang," floating in a self-made cordial, enclosed in a shell of Whitman's famous chocolate. Hawaiian pineapple and selected California raisins, fruits of sunshine, wrapped in cream fondant and coated with chocolate. These liquid fruit chocolates are by many considered the finest confections made.

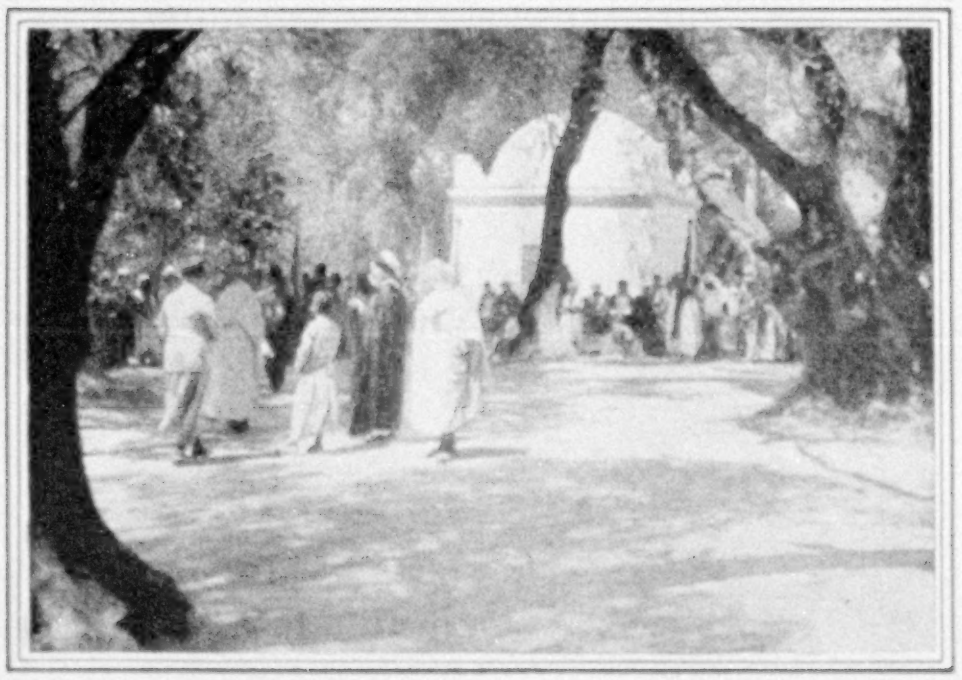
Then the whole nut meats in chocolate—rare walnuts, rich brazils, delicate filberts, juicy pecans and other favorites.

Every piece in this luxury package was weighed in the balance before being admitted to this little group of the candy elect.

The artistic design of this new box indicates the esteem in which it is held by the makers—

Whitman's Chocolate Covered Fruits and Nuts





Where will you be this Winter?

DO you find New York agreeable in a January drizzle or fog—Chicago braving a roaring lake wind? Or do you just stick it out till spring? . . . . Why not go where spring comes from?

Perfume—drifts and waves of it—roses and drowsing orange trees. Light—blazing in the white squares, sifting through the trees. Music—the call of the muezzin, the little, thin, wild note of the flute. Mystery—the East, held in trust for us by France . . . . That's what you'll find this winter if you wish.

You've come from Algiers—Cannes-in-Africa—the gayest, most cosmopolitan city in the world. You're going to Laghouat, green island in the Sahara sands—to El-Goléah, where the sun, the moon and the stars wheel forever over a solitary well . . . . You'll see the Roman ruins, the place where Carthage stood, catacombs, the Arabian Nights come to life . . . . You're going back as far as Abraham—in a motor car!

How? By letting the French Line take you from New York to Paris in six days, from Marseilles to Algiers in twenty-six hours, all down the North African Coast by motor car for three or four gorgeous weeks . . . .

Write for brochure, "Across North Africa," by Rosita Forbes

French Line

Compagnie Générale Transatlantique, 19 State Street, New York

Offices and Agencies in Principal Cities of Europe and the United States

B & O Terminal, Locust Point, Baltimore, Maryland

Photo by Fairchild Aerial Camera Corporation

Bond Values
—seen and unseen

WELL chosen Railroad, Terminal and Equipment Bonds are secured by tangible values. They are further protected by the earnings of roads meeting the country's needs for expansion and development.

You can select desirable, high-grade railroad bonds from our Current List which will be sent upon request.

THE NATIONAL CITY COMPANY
NATIONAL CITY BANK BUILDING, NEW YORK

THE NATIONAL CITY COMPANY

National City Bank Building, New York

You will find offices in more than 50 leading cities in the United States, Canada and abroad.

BONDS SHORT TERM NOTES ACCEPTANCES

Cantilever Stores

Cut this out for reference

Akron—11 Orpheum Arcade (Main & Market)
Albany—Hewett's Silk Shop, 15 N. Pearl St.
Allentown—907 Hamilton St.
Atlanta—126 Peachtree Arcade
Atlantic City—2019 Boardwalk (near Shelburne)
Baltimore—325 North Charles St. (2nd floor)
Bangor—John Conners Shoe Co.
Binghamton—Parlor City Shoe Co.
Birmingham—321 North 20th St.
Boise—The Falk Merc. Co.
Boston—189 Newbury St. cor. Clarendon St.
Bridgeport—1825 Main St. (2nd floor)
Brooklyn—516 Fulton St. (Primrose Bldg.)
Buffalo—641 Main St. (above Chippewa St.)
Burlington, Vt.—Lewis & Blanchard Co.
Charlotte—226 North Tryon St.
Chicago—162 N. State St. (opp. Chicago Theatre)
Chicago—1058 Leland (near Broadway)
Chicago—6410 Cottage Grove Ave. (Woodlawn)
Cincinnati—The McAlpin Co.
Cleveland—1705 Euclid Ave.
Columbus, O.—184 E. Broad St. (at 3rd)
Dallas—Volk Bros. Co.
Dayton—The Rike-Kumler Co.
Denver—224 Foster Bldg.
Des Moines—W. L. White Shoe Co.
Detroit—41 E. Adams Ave.
Duluth—107 West First St. (near 1st Ave., W.)
Elizabeth—208 So. Broad St.
Evanston—North Shore Bootery
Evansville—310 So. 3rd St. (near Main)
Fort Wayne—Mathias App's Sons
Fort Worth—Washer Bros.
Grand Rapids—Herpolsheimer Co.
Harrisburg—26 No. 3rd St. (second floor)
Hartford—Trumbull & Church Sts.
Houston—205 Foster-Bank Commerce Bldg.
Huntington, W. Va.—McMahon-Diehl
Indianapolis—L. S. Ayres & Co.
Jacksonville, Fla.—24 Hogan St. (opp. Seminole Hotel)
Jersey City—Bennett's, 411 Central Ave.
Kansas City, Mo.—606 Altman Bldg.
Knoxville—Spence Shoe Co.
Lincoln—Mayer Bros. Co.
Little Rock—417 Main St. (Pugh Bldg.)
Long Beach, Cal.—536 Pine Ave.
Los Angeles—905 New Pantages Bldg.
Louisville—Boston Shoe Co.
Lowell—The Bon Marche
Madison—Family Shoe Store
Memphis—28 No. Second St.
Milwaukee—Brouwer Shoe Co.
Minneapolis—25 Eighth St. South
Montreal—Keefer Bldg. (St. Catherine, W.)
Mt. Vernon, N. Y.—A. J. Rice & Co.
Nashville—J. A. Meadors & Sons
Newark—897 Broad St. (2nd floor)
New Bedford—720 Pleasant St.
New Brunswick—A. V. Harding & Sons
New Haven—153 Court St. (2nd floor)
New Orleans—109 Baronne St. (Room 206)
New York—(14 W. 40th St. (opp. Public Library)
New York—(2950 Third Ave. (152nd St.)
Norfolk—Ames & Brownley
Oakland—516-15th St. (opp. City Hall)
Oklahoma City—Peeler's Boot Shop
Omaha—1705 Howard St.
Pasadena—378 E. Colorado St.
Passaic—27 Lexington Ave.
Paterson—10 Park Ave. (at Erie Depot)
Pawtucket—Evans & Young
Peoria—105 So. Jefferson St. (Lehmann Bldg.)
Philadelphia—1912 Chestnut St.
Pittsburgh—The Rosenbaum Co.
Pittsfield—Wm. Fahey's, 234 North St.
Plainfield—M. C. Van Arsdale
Portland, Me.—Palmer Shoe Co.
Portland, Ore.—351 Alder St.
Providence—The Boston Store
Reading—Sig. S. Schwertner
Richmond, Va.—Seymour Sycle
Roanoke—I. Bachrach Shoe Co.
Rochester, N. Y.—257 Main St., E. (3rd floor)
St. Joseph, Mo.—218 N. 7th (Arcade Bldg.)
St. Louis—516 Arcade Bldg. (opp. P. O.)
St. Paul—43 E. 5th St. (Frederic Hotel)
Sacramento—209 Ochsner Bldg., K. near 7th
Saginaw—Goeschel-Kuliper Co.
Salt Lake City—Walker Bros. Co.
San Diego—The Marston Co.
San Francisco—127 Stockton St.
San Jose—Hoff & Kayser
Schenectady—445 State St.
Scranton—Lewis & Reilly
Seattle—Baxter & Baxter
Sioux City—The Pelletier Co.
Spokane—The Crescent
Springfield, Mass.—Forbes & Wallace
Syracuse—121 West Jefferson St.
Tacoma—255 So. 11th St. (Fidelity Bldg.)
Toledo—LaSalle & Koch Co.
Toronto—7 Queen St. East (at Yonge)
Trenton—H. M. Voorhees & Bro.
Troy—35 Third St. (2nd floor)
Tulsa—Lyon's Shoe Store
Utica—28 & 30 Blandina St., cor. Union
Vancouver—Hudson's Bay Co.
Washington, D. C.—1319 F Street (2nd floor)
Wheeling—Geo. R. Taylor Co.
White Plains—Gedney Boot Shop
Wilmington, Del.—Kennard-Pyle
Winnipeg—Hudson's Bay Co.
Worcester—J. C. MacInnes Co.
Yonkers—22 Main St.
Youngstown—B. McManus Co.

Agencies in 454 other cities

Cantilever Shoes Make Walking a Pleasure

OUT where the blue is spread above autumn's red and gold, there's a glow of health for your cheeks and a glorious sense of well-being as you swing along on buoyant feet. It is fun to walk in Cantilever Shoes. Weary feet respond to the easy action of the flexible Cantilever arch. Your feet are *alive*.

The Cantilever Shoe follows Nature's plan. Not only is it naturally shaped—it is flexible, like your foot. The arch muscles can exercise with every step. You enjoy real foot freedom in the flexibility of this comfortable shoe.

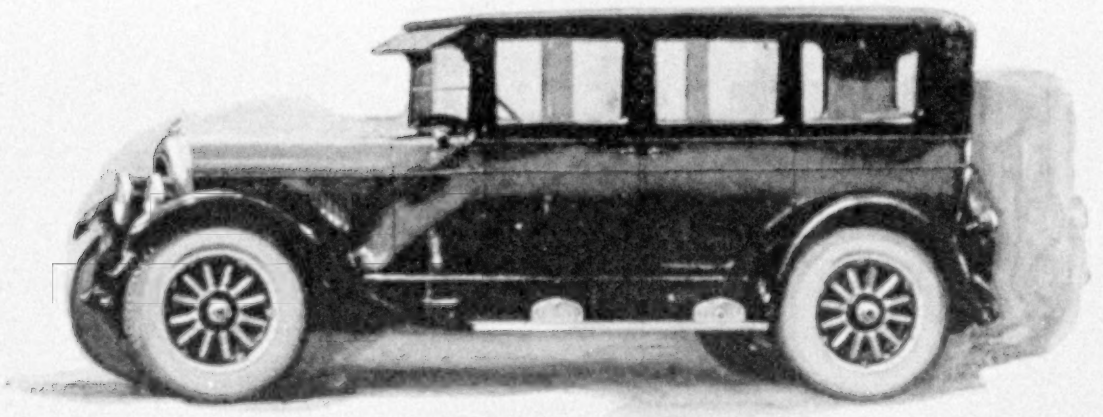
Feet that have been weakened by muscle-restricting, rigid shoes will react quickly to the wonderful freedom of Cantilevers. The muscles, whose duty is to hold the twenty-six small bones of each foot in arched formation, gain new strength. Weak feet are corrected; flat feet prevented. You gain the satisfaction of comfortable, springy feet that seem to carry you along of their own free will. Best of all, you are able to accomplish more, without fatigue, and you gain in health.

You will like the pleasing grace with which the lines of the Cantilever Shoe fit the foot. The modishly rounded toe, the moderate well-placed heel, and the fine, easy leathers all contribute to the comfort and good looks of the Cantilever. And the flexible arch nestles up snugly to the under-curve of the foot, giving restful support and accentuating the beauty of the arch and instep.

Appropriate Cantilever models enable you to be comfortable on any occasion. There are trim oxfords for wear with tailored costumes, snug boots for stormy weather and an interesting variety of pumps in two-strap and three-strap designs for afternoon or evening, also a new "step-in" pump that is very good looking.

Cantilever Shoes are inexpensive. High quality leathers insure long wear, and moderate prices make them easy on your pocketbook. If you do not find a dealer in the partial list at the left, write the manufacturers, Morse & Burt Co., 418 Willoughby Avenue, Brooklyn, N.Y., and they will send you the address of a conveniently located Cantilever store.

Cantilever Shoe



The Imperial

All Chrysler Six models are equipped with special design six-ply, high-speed balloon tires.

Chrysler Six Features That Give Results Never Before Known

The Spring Suspension

Aside from the Chrysler Six, there probably is no car today that can be driven around a turn at anything approaching high speed without side-sway that tends to be alarming.

That disagreeable side-sway is not present in the Chrysler Six—for the first time, we believe, in the history of the motor car.

It is not present because the engineering group which put more than three years into the development of the Chrysler Six saw its elimination as one of the most necessary elements of finer motoring.

If you have ever seen a chassis with the body removed, you have noted that the chassis frame tapers from the rear toward the front; that the rear springs follow the line of the frame side-rails and are set at an angle to the rear axle.

That was good engineering until Chrysler discarded it in favor of something better.

What Chrysler does is to mount the rear springs at right angles to the rear axle, disregarding entirely the taper of the frame.

The springs therefore are parallel to the rear wheels. They are closer to the wheels, and form a wider base for the upper structure of the car.

It is easy to see that such design makes side-sway an impossibility, and, combined with special six-ply balloon tires, decidedly promotes the comfort and ease of those in the car.

Here is another evidence of the scientific engineering which has brought a heretofore unrealized degree of efficiency to motor car performance.

The entirely new ability which the Chrysler Six has demonstrated is vividly illustrated by the Chrysler motor, which delivers 68 brake test h. p. and on the road has a speed capacity better than 70 miles an hour. Yet it is yielding better than 20 miles to the gallon of gasoline.

Its oil-filter, which materially reduces oil consumption and cleanses all the oil in the crankcase every 25 miles, and the air-cleaner—which prevents the entrance of dust and dirt through the carburetor—add greatly to operating smoothness and long life.

Chrysler Six is undoubtedly the most modern and efficient motor car in America.

Chrysler dealers everywhere are in position to extend the convenience of time-payments. Ask about Chrysler's attractive plan.

The Touring, $1395; The Phaeton, $1495; The Roadster, $1625; The Sedan, $1725; The Brougham, $1895; The Imperial, $1995. All prices f. o. b. Detroit; tax extra.

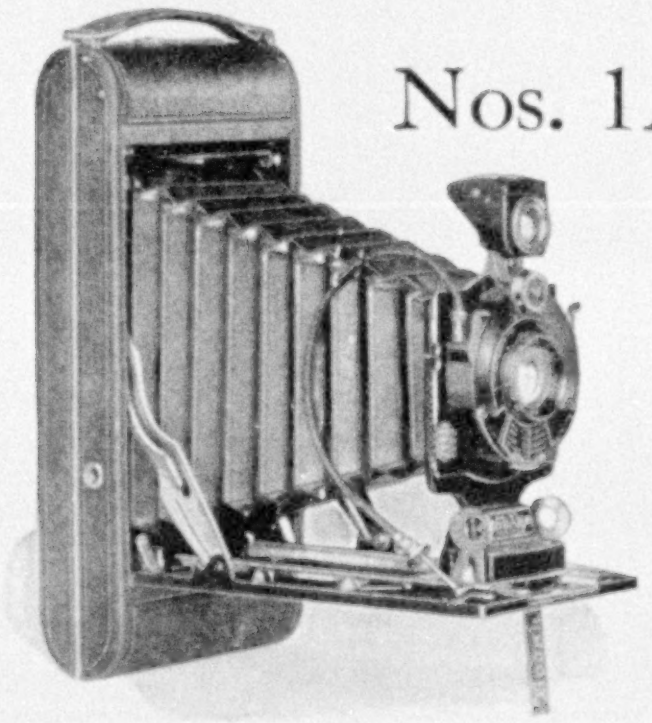
CHRYSLER MOTOR CORPORATION, DETROIT, MICHIGAN
Division of Maxwell Motor Corporation

MAXWELL-CHRYSLER MOTOR COMPANY OF CANADA, LTD. WINDSOR, ONTARIO

The Chrysler Six

Pronounced as though spelled Cris'ler

A new Kodak with a new shutter



Nos. 1A and 2C Kodaks Series III

Both models are equipped with the famous Kodak Anastigmat lens *f*.7.7 and the accurate Diomatic shutter.

Mechanically precise; Optically proficient

A fully-jeweled watch is corrected to one second but the Diomatic shutter must time up to 1/100 of a second—and it does. Fractions of seconds—1/10, 1/25, 1/50, 1/100—are clipped with greatest accuracy and this mechanical precision, together with the sharp-cutting Kodak Anastigmat lens *f*.7.7, makes good picture-making all the easier.

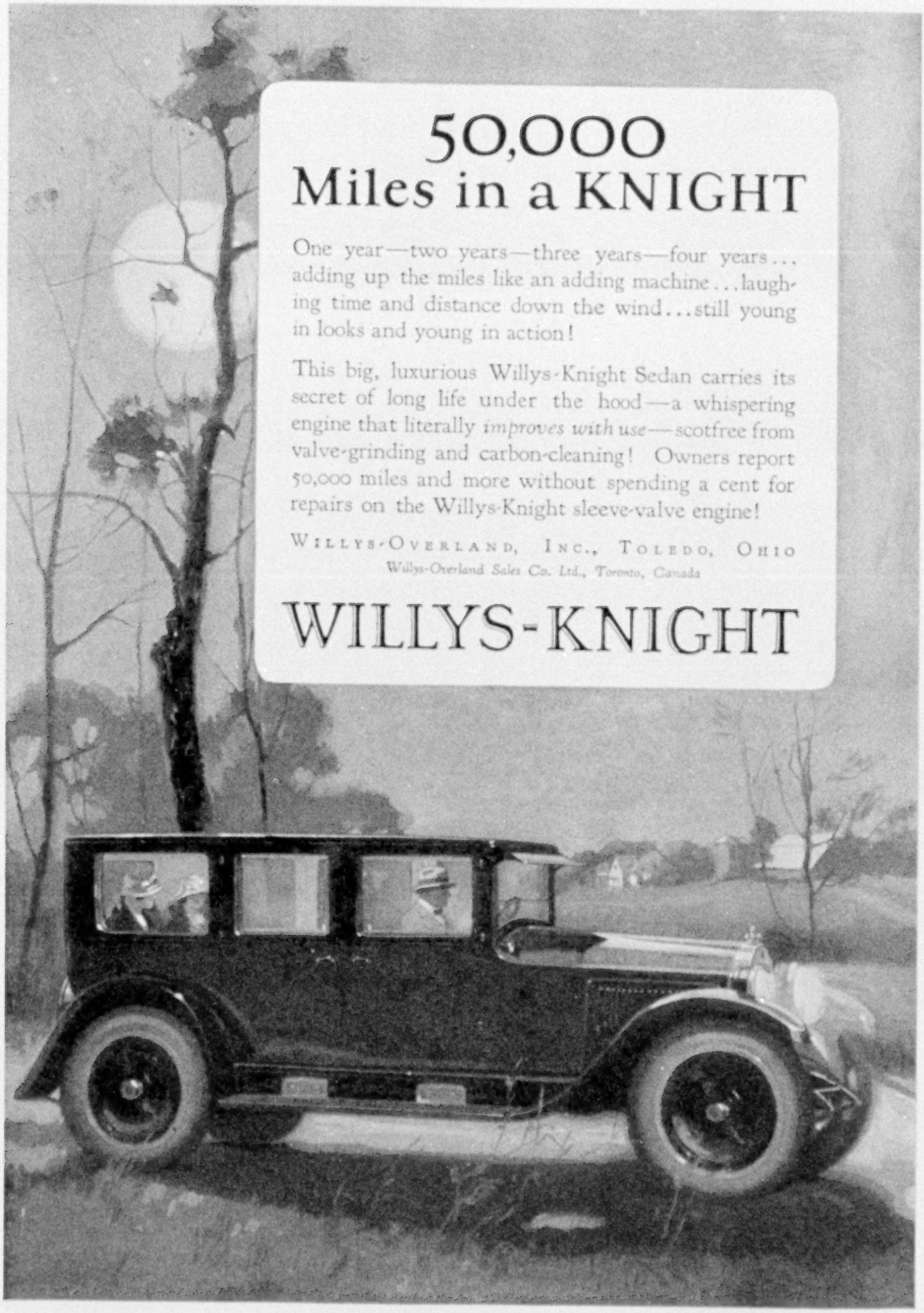
Additional refinements—the new quick action focusing device, the rising front and the automatic shutter dial, which points out the proper exposure under existing light conditions—combine to equip an unusually capable camera, at a conservative price.

PRICES

No. 1A Kodak, Series III, pictures 2½x4¼ inches -	$30
No. 2C Kodak, Series III, pictures 2⅞x4⅞ inches -	33

If it isn't an Eastman, it isn't a Kodak

Eastman Kodak Company, Rochester, N. Y., *The Kodak City*



50,000 Miles in a KNIGHT

One year—two years—three years—four years... adding up the miles like an adding machine...laughing time and distance down the wind...still young in looks and young in action!

This big, luxurious Willys-Knight Sedan carries its secret of long life under the hood—a whispering engine that literally *improves with use*—scotfree from valve-grinding and carbon-cleaning! Owners report 50,000 miles and more without spending a cent for repairs on the Willys-Knight sleeve-valve engine!

WILLYS-OVERLAND, INC., TOLEDO, OHIO

Willys-Overland Sales Co. Ltd., Toronto, Canada

WILLYS-KNIGHT

PROTECTION

AS the lighthouse is protection to a ship at sea, so is Colt protection to your home—a safeguard against the unseen dangers of the night. A Colt Revolver or Automatic Pistol has always excelled in dependability, accuracy, unfailing service and safety. For that reason a Colt is the official side arm of American forces on land and sea. No other arm can so well protect your home and property. Why not insist on the best?

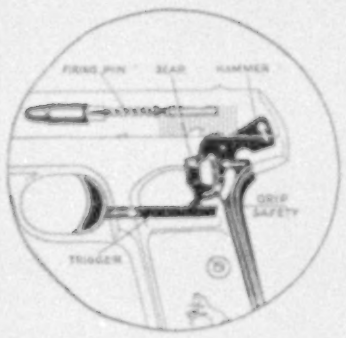


ILLUSTRATION OF COLT GRIP SAFETY. ONE OF THE FEATURES THAT AUTOMATICALLY PROTECTS COLT OWNERS AGAINST ACCIDENT.
INSIST ON A COLT

See your dealer and have him explain in detail all of the Colt safety features
Catalogue? Of course. Want it?

COLT'S

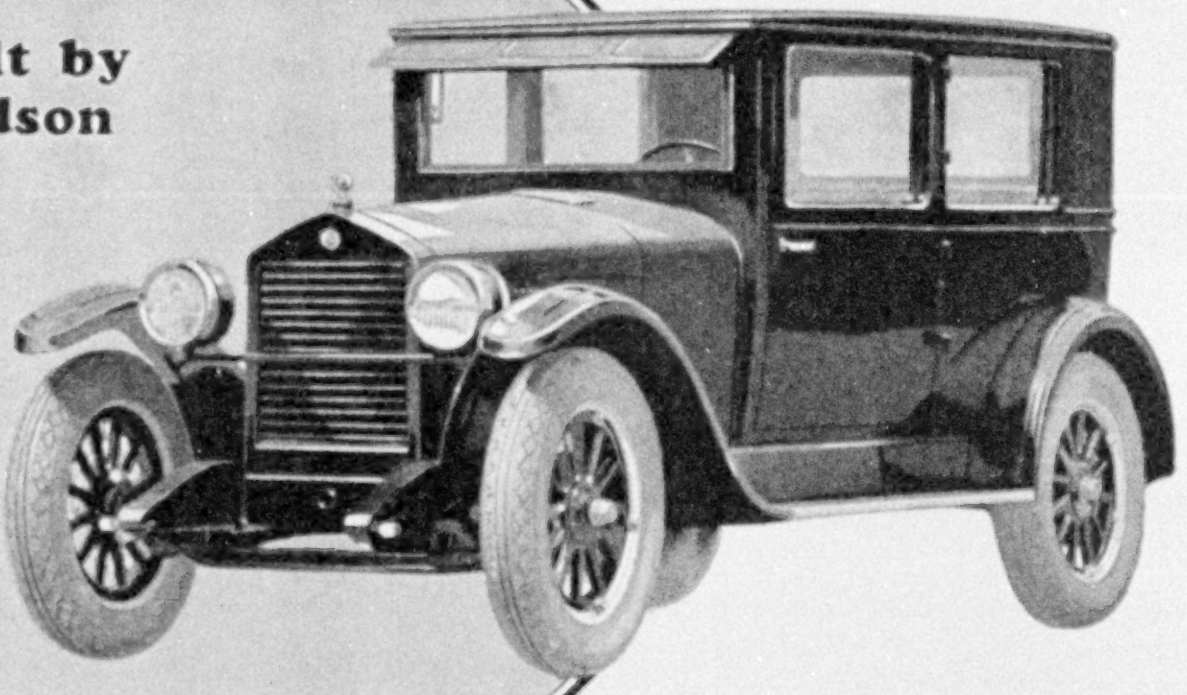
COLT'S PATENT FIRE ARMS MFG. CO.
Hartford, Connecticut
Pacific Coast Representative
Phil. B. Bekeart Co., 717 Market St.
San Francisco, Calif.

THE ARM OF LAW AND ORDER

At Open Car Cost

ESSEX COACH

Built by Hudson



Genuine Balloon Tires

Standard Equipment

The outstanding buying choice this year is "Closed Car Comforts at Open Car Cost." The Coach alone provides them. It is exclusive to Hudson and Essex. Everyone knows it gives highest closed car value. And because no other type or car shares its position it is the largest selling 6-cylinder closed car in the world.

Genuine Balloon Tires Enhance World's Greatest Value

Naturally when balloon tires had established their superiority Hudson and Essex would adopt them. They are now standard equipment. They add an even greater measure of riding ease, steadiness and good looks to the notable values of the Coach.

In workmanship, materials and design both Hudson and Essex are of one quality—built in the same factories, under the same patents. Your choice between them will rest solely on the price you want to pay.

You see the Coach everywhere in increasing numbers. Everyone wants closed car comforts. They will no longer accept half-utility when all-year usefulness and comforts cost no more in the Coach.

Consider how the growing trend to closed cars affects resale values. The diminishing demand for open cars means for faster depreciation in that type. As the wanted type, the Coach maintains exceptionally high resale value.

ESSEX SIX COACH

$1000

HUDSON SUPER-SIX COACH

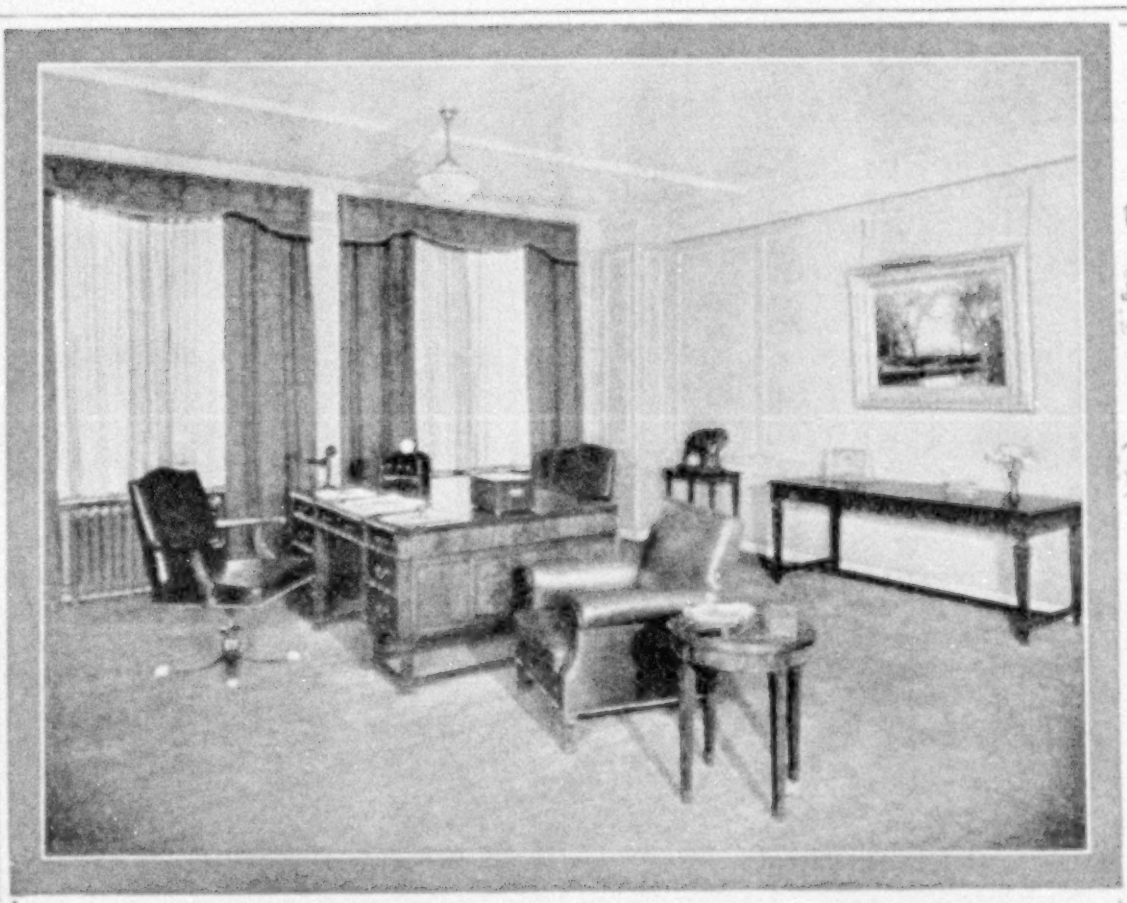
$1500

Freight and Tax Extra

Hudson and Essex are of One Quality

Be Sure to Get Parts Price List from Your Dealer

So Why Buy an Open Car?



The
FIFTH
Avenue
Building
200 Fifth Ave.
New York

New York is the place to sell

POSSIBLY the very materials from which your clothes are made were sold to your tailor in an office in the city of New York. The chinaware on your table, the silver and glassware, no matter where they were manufactured, were ordered from samples displayed in an office in the city of New York.

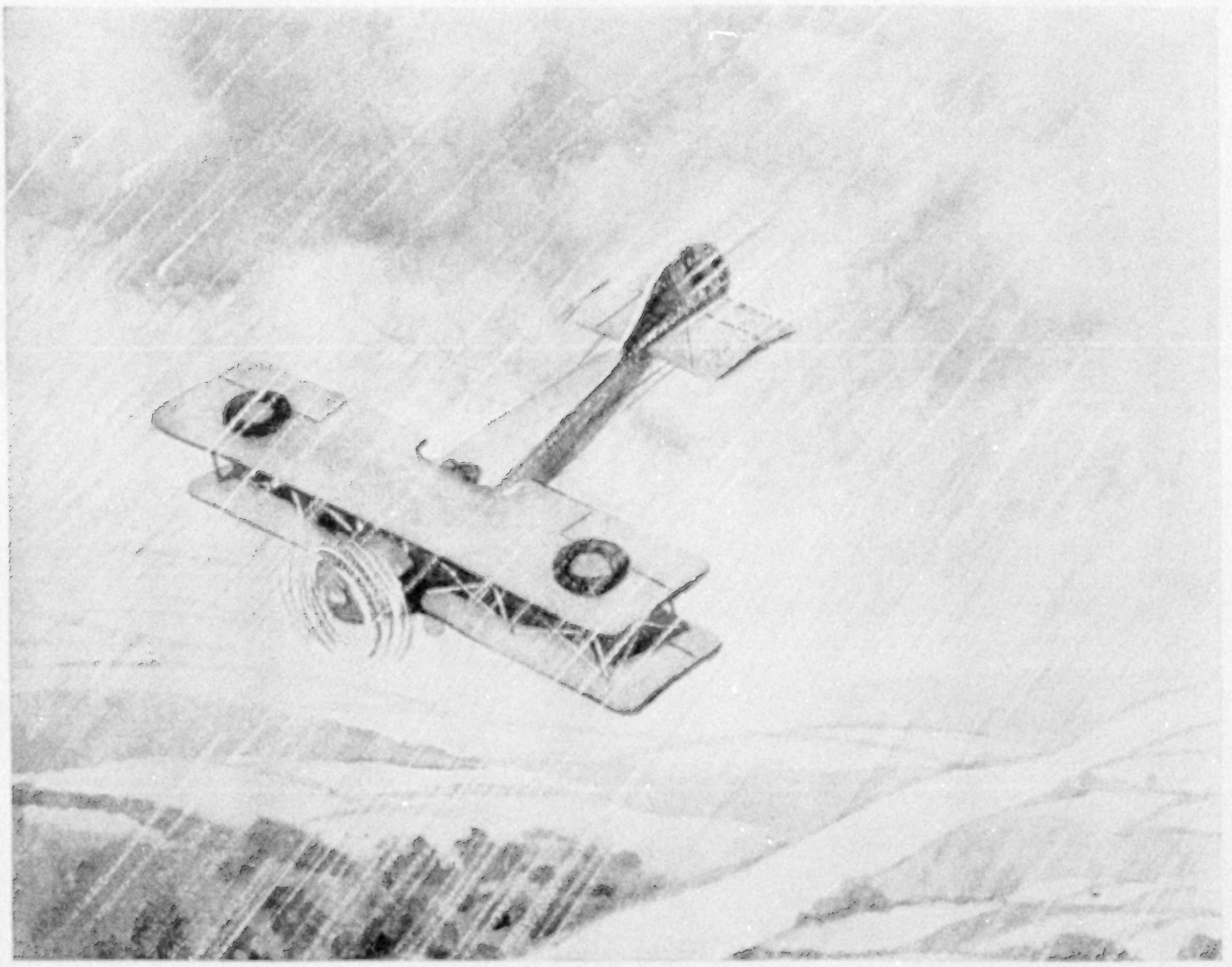
New York is the great buying and selling center of America. It is the Mecca of buyers from every corner of the country. They come to New York every day by the thousands. They visit the salesrooms of manufacturers, whose plants are located elsewhere, and order a season's stocks from samples on display.

One of the busiest centers of buying in New York is The Fifth Avenue Building. Here are located the New York offices of the leading manufacturers in a number of lines. The spacious, high-ceilinged, well-lighted and ventilated offices afford splendid quarters for branch offices. At the intersection of two world-famous streets, The Fifth Avenue Building enjoys the prestige of a well-known address. It is the ideal location for your New York headquarters.

THE FIFTH AVENUE BUILDING

Broadway and Fifth Avenue, at Madison Square, New York

"More than an office building"



One link with earth

Flying over a confusion of mountains, forests, canyons, turbulent rivers, barren desert wastes—through thunder-storm, rain and sunshine—two famous airmen expressed their feeling as one of absolute loneliness, with a world passing beneath that had no thought of their existence.

Their one connecting link with the earth was a map. On its truthfulness their very lives depended. And it was a RAND McNALLY Map—giving to these airmen the most trustworthy picture of the ground obtainable.

RAND McNALLY Maps were used by the aviators on the round-the-world flight! RAND McNALLY Maps were used by MacReady and Kelly on their coast-to-coast flight! RAND McNALLY Maps are used by flyers in the Air Mail Service. In all the incredibly varied work carried on to-day from the air, aviators trust themselves wholly and confidently to the guidance of RAND McNALLY Maps!

The maps used by these men are the very same RAND McNALLY Indexed Pocket Maps which you can buy for thirty-five cents at any stationer's. All RAND McNALLY Maps are invariably accurate—kept so by infinite attention to detail and by never-ceasing revision.

Every kind of map for every imaginable purpose is made here at Map Headquarters. You will find RAND McNALLY Maps, Atlases and Globes absolutely truthful. For sale by all leading book-stores, stationers, news-stands, drug stores and hotels.

RAND McNALLY & COMPANY

Map Headquarters

Dept. K-11

536 S. Clark Street, Chicago — 270 Madison Avenue, New York

Branches: Philadelphia . . . Washington . . . Boston . . . Pittsburgh . . . Cleveland
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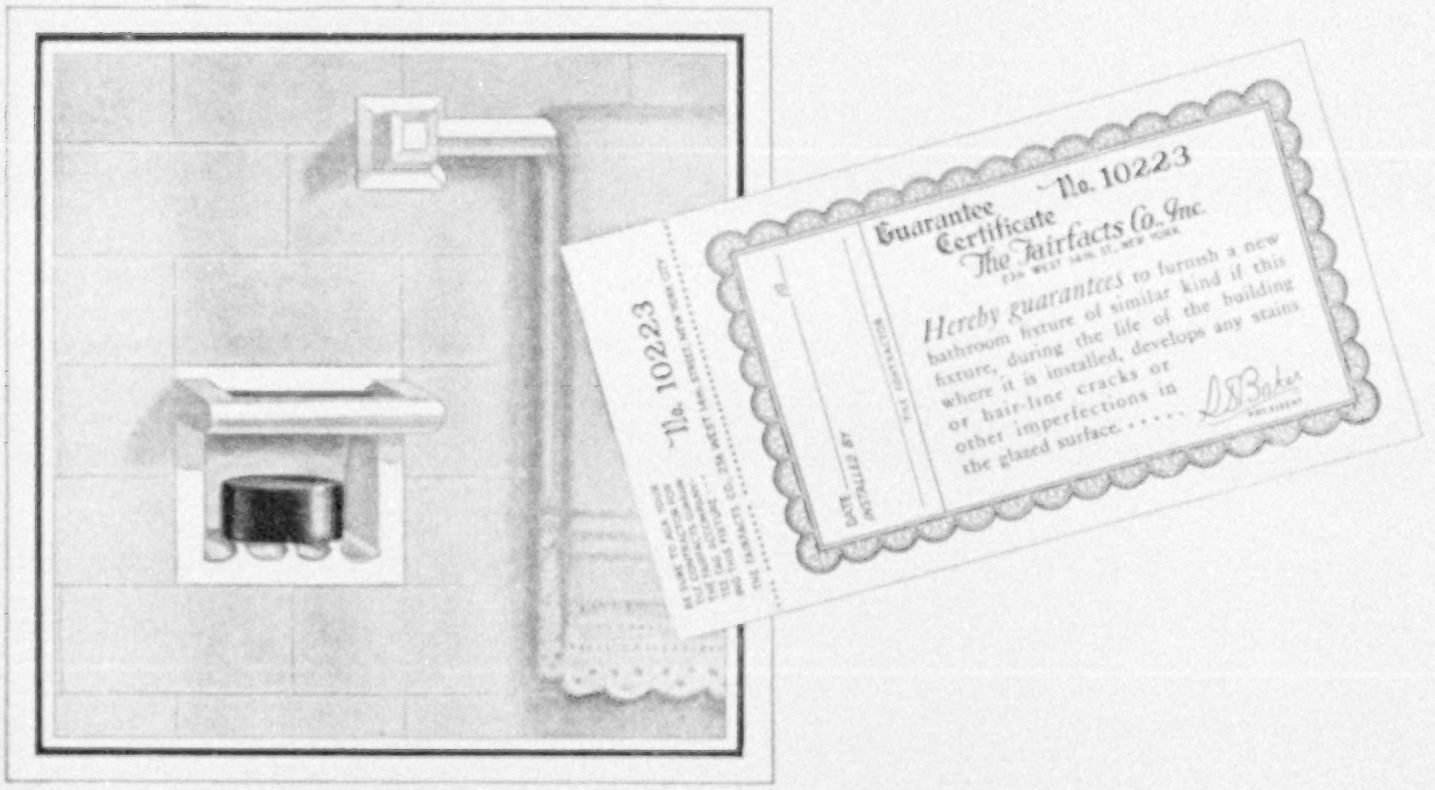
XUM

Now-Absolutely guaranteed *for the life of your home*!



You want your bathroom fixtures to retain their original beauty as long as your house lasts. The Fairfacts certificate positively guarantees this

PRACTICALLY every new home has bathroom fixtures installed in the walls. But be sure that they are genuine Fairfacts Fixtures—the kind that are guaranteed without reservation to last as long as your house.

Our special process of manufacture enables Fairfacts Fixtures to withstand changes of temperature or other causes that make some fixtures deteriorate even after a month or two. It is discouraging to see fixtures gradually deteriorate that you hoped would be a lasting pleasure.

Fairfacts Fixtures are as enduring as fine china, and the touch of a damp cloth instantly restores their beauty and lustre.

Fairfacts Fixtures are snow-white. They not only match the other bathroom equipment but harmonize perfectly with any color or tint of tile walls.

It is a costly operation to replace fixtures after they are once cemented in the walls. That is why it is important to make sure that they are genuine Fairfacts Fixtures. Look for the Guarantee Certificate attached to each fixture.

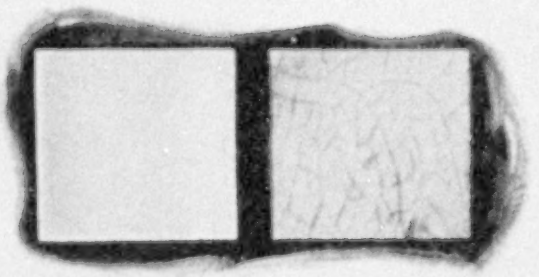
BATHROOM Fairfacts FIXTURES

This label also appears on every Fairfacts Fixture

Send for our booklet, "The Perfect Bathroom" and further information why the special Fairfacts process of manufacture and Guarantee Certificate is important.

After a few months

BELOW are reproductions or photographs showing the surface appearance of two bathroom fixtures a few months after installing. The one on the left, a Fairfacts Fixture, has preserved its original snow-white surface and is as perfect as the day it was made. The special Fairfacts process results in a glazed surface which is permanent. The surface of the other, an ordinary fixture, has developed hundreds of hair-line cracks, permitting dust, soap and germs to penetrate beneath the surface, not only making the fixture unsanitary, but ruining its appearance beyond any possibility of cleaning or restoring.



Surface of Fairfacts Fixture after a few months' use.

Surface of ordinary fixture after a few months' use.

THE FAIRFACTS COMPANY, INC., *Manufacturers*

Dept. N-3, 234-236 West 14th Street, New York City

"Dome of the Rock" in Jerusalem, believed to have been erected by Omar, second of the Mohamedan caliphs. A. D. 691.

Typically rugged hillside in the volcanic island of Martinique, W. I.

Cruises
MEDITERRANEAN—WEST INDIES

The joy of traveling in winter—and finding spring! To leave the chill, snow-blown streets—and revel in the sun-brightened gardens of the Mediterranean—or the Caribbean.

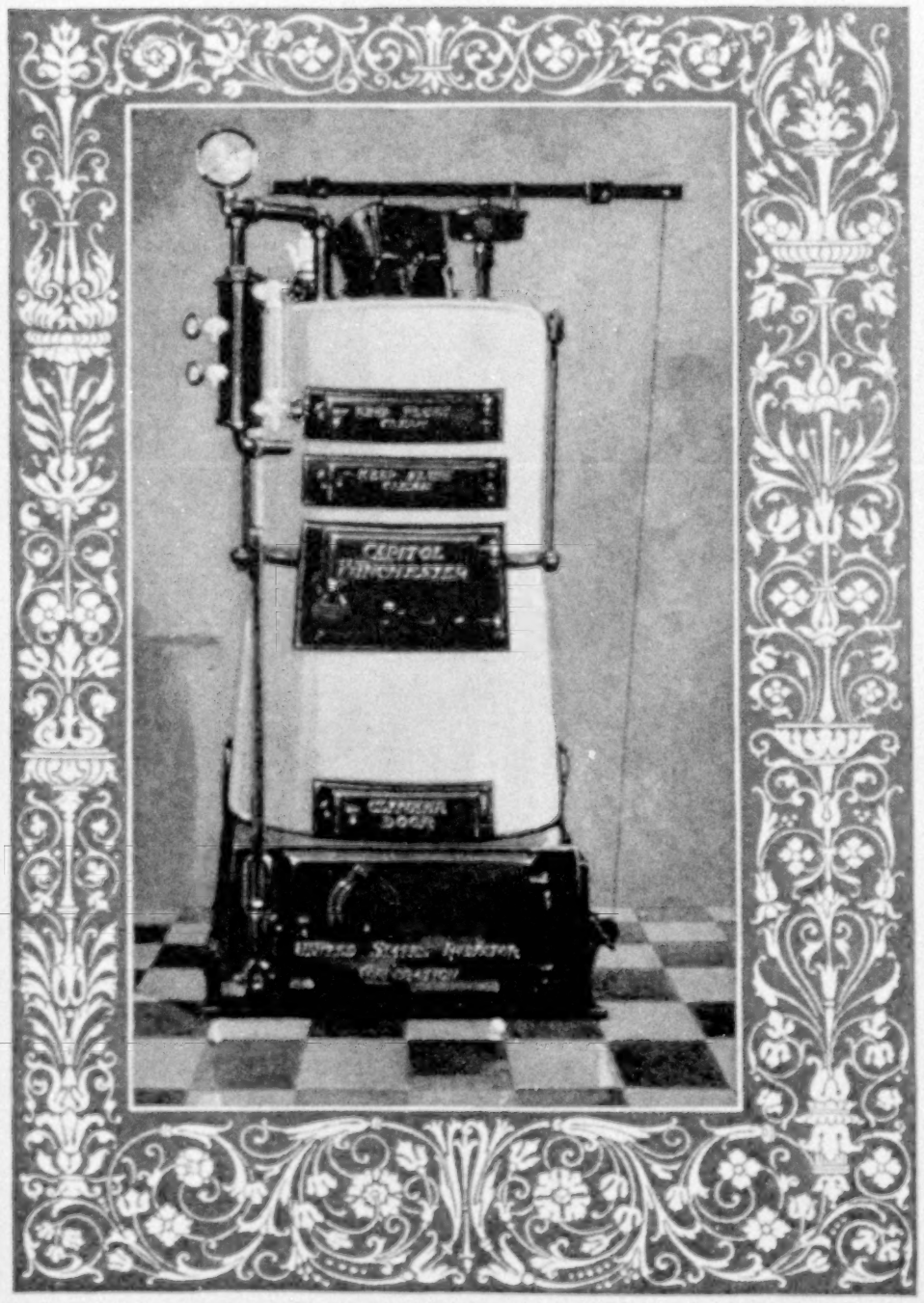
You meet the leisurely voyagers who find the little-known beauties—and avoid the beaten tracks.

To the Mediterranean—White Star liner *Adriatic*, Jan. 7 and Feb. 26, 1925. Red Star liner *Lapland*, Jan. 17 and March 8. Duration 47 days. Madeira, Gibraltar, Algiers, Monaco, Naples, Athens, Constantinople, Holy Land, Egypt.

To the West Indies—White Star liner *Megantic*, 30-day cruise among islands of Caribbean, including calls at Panama Canal and Havana. Sailing Jan. 22 and Feb. 25, 1924.

For detailed information address Cruise Department, No. 1 Broadway, New York, or any authorized steamship agent.

WHITE STAR LINE
RED STAR LINE



Capitol Boilers

There can be no experiment or speculation so far as the installation of a Capitol Boiler is concerned because we insist upon sharing the responsibility.

For many years, now, our products have been sold, not as mere equipment, but in terms of a positive Heating Service. Capitol Boilers and United States Radiators must satisfy *you* or they cannot possibly satisfy us.

So, please remember, when you buy a United States product you buy something that is worthy of confidence. We have expressed our feeling in the matter by the broadest, written guarantee in the boiler field.

That guarantee assures efficient, dependable heating service under all weather conditions. It is virtually a contract between our owners and ourselves. Back of it is the reputation and every resource of this company.

United States Radiator Corporation

General Offices, Detroit, Michigan

Branch Offices and Warehouses In All Principal Cities

SIX-ROOM HOUSE NO. 633 — *Designed for the Service Department, American Face Brick Association*

This attractive Dutch Colonial House is one of the 104 beautiful houses in our "Face Brick Bungalow and Small House Plans." Many home-builders in all parts of the country have written us that this is the finest collection of house plans they have ever seen.

Face Brick for Economy

THE superior merits of Face Brick as to durability, fire-safety, and beauty over other building materials are so clearly recognized that many home-builders jump to the conclusion that the cost of a Face Brick house must be beyond their means.

Yet it is a fact—surprising as it may seem—that Face Brick is, in the long run, the most economical material and the best insurance for the future value of your home-building investment.

The basic facts about home-building are fully discussed in **"The Story of Brick,"** an attractive booklet with beautiful illustrations of modern homes and packed with information of value to every prospective home-builder. Sent free on request.

"Face Brick Bungalow and Small House Plans" are issued in four booklets, showing 3 to 4-room houses, 5-room houses, 6-room houses and 7 to 8-room houses, in all 104, each reversible with a different exterior design. These designs are unusual and distinctive, combined with convenient interiors and economical construction. The entire set for one dollar. Any one of the booklets, 25 cents.

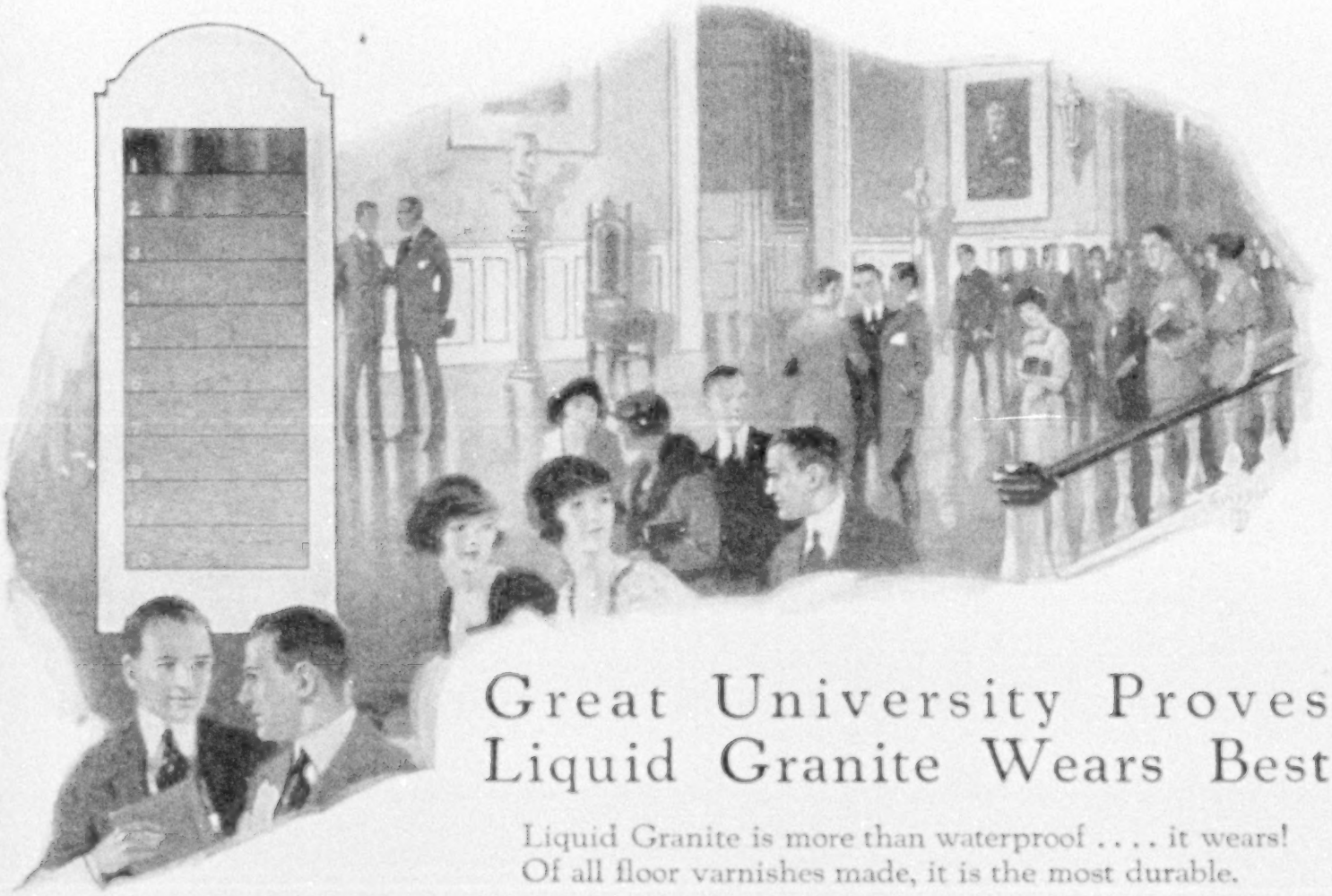
We have the complete working drawings, specifications, and masonry quantity estimates at nominal prices.

"The Home of Beauty" shows fifty two-story houses, selected from 350 designs submitted by architects in a nation-wide competition. Sent for 50 cents. We also distribute complete working drawings, specifications, and quantity estimates for these houses at nominal prices.

"The Home Fires," a most attractive fireplace booklet, with many designs, gives full directions for fireplace construction. Sent for 25 cents.

Address, American Face Brick Association, 1737 Peoples Life Building, Chicago, Illinois.

XUM



Great University Proves Liquid Granite Wears Best

Liquid Granite is more than waterproof .... it wears! Of all floor varnishes made, it is the most durable.

One of America's greatest universities has proved this by conducting a "million-step" test. Separate strips of flooring in one of the institution's main hallways were finished with samples of varnish supplied by 10 different manufacturers. The panels were secretly numbered and for weeks subjected to the punishment of tramping feet.

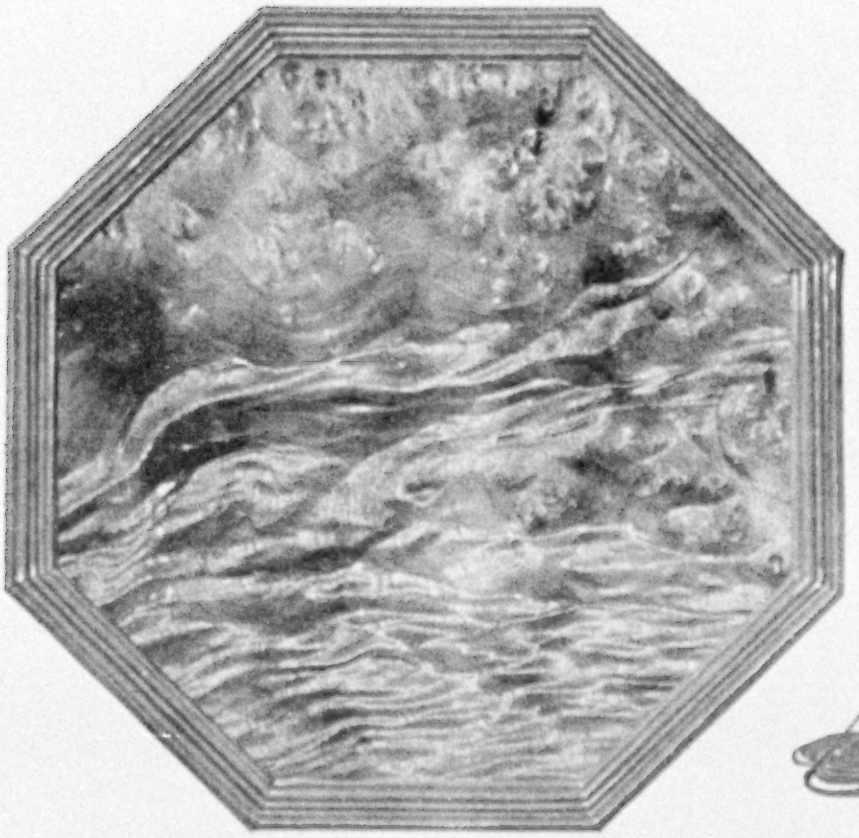
Finally the factory representatives who had supervised the varnishing were called in as judges to decide which of the 10 strips of flooring was in the best condition. Ten votes were cast for panel No. 1. Only three of the experts even indicated a second choice.

Panel No. 1 was finished with Liquid Granite .... the most durable and wear-resisting of all floor varnishes. For floors of enduring beauty you too should use Liquid Granite. It has no equal.

BERRY BROTHERS
Varnishes Enamels Stains

Liquid Granite

FLOOR VARNISH OF DISTINCTION



Figured Walnut

Walnut is "Boy-Proof"

THE tawny brown beauty of American Walnut is natural, not due to surface stains. So it is not in constant need of refinishing.

The vigorous feet of children, the bruises of their toys leave few disfiguring scars on walnut furniture. Walnut wood can take a lot of punishment and still keep its beauty—and with a minimum of care.

Walnut is strong. On its stability depend the lives of aviators whose airplane propellers are made of walnut. And time has yet to set a limit to its durability, though centuries of furniture making have seen walnut in ever-growing popularity.

The tired home-worker loves walnut for its beauty, its durability and ease of upkeep. And its economy is a joy to the thrifty. Walnut is famous for its resistance to warping and swelling in wet weather and shrinking and cracking in dry weather.

These same superb characteristics make American Walnut the choice of discriminating people for interior paneling and wood work. It is widely used in the finest of American homes, in hotels, apartments, clubs, churches and offices, and its cost is surprisingly little more than for ordinary woods.

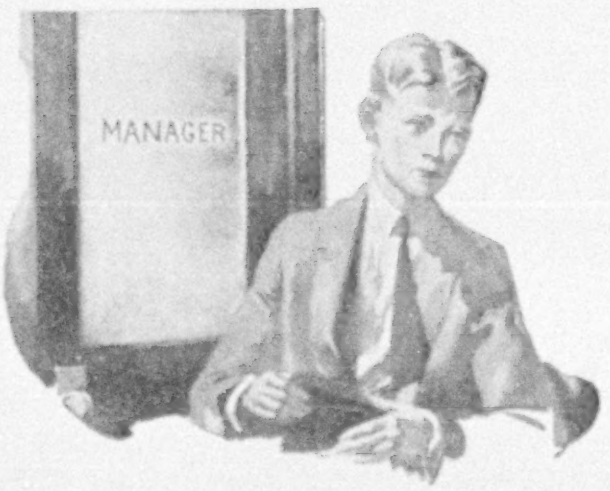
AMERICAN WALNUT

We will gladly send you on request our beautiful book "The Story of American Walnut." Learn how to tell real walnut from its imitations. Ask for it.

AMERICAN WALNUT MANUFACTURERS' ASSOCIATION
Room 850, 616 South Michigan Avenue, Chicago, Illinois

XUM

Will your boy crumple *at the first hard blow?*



Some day your boy must come to grapples with the world. If he has exaggerated ideas of his own importance and the world's easy mastery, the first real blow will floor him. With no background other than his dreams, he will quickly sink to the dead-level of the rank and file—licked.

To help prepare boys, in their teens, to meet life intelligently is the purpose of THE AMERICAN BOY. It presents to boys the world of business, commerce, science, and nature in all its realities. It helps them to understand men and motives. It shows a boy that success is won by backbone, not wishbone; by character rather than cleverness. He learns what he must expect, and what will be expected from him. And when the first blow sweeps him off his feet, he'll leap up again, fighting.

Your boy, NOW, is laying the foundation for his future. Guard him from the gilded illusions that undermine resolve; give him the companionship of THE AMERICAN BOY, its stories and their authors, to help him erect a solid base of faith in himself. Send us the coupon below—you need not enclose any money—and we will mail your boy, or any boy you want to see get ahead, the beautifully illustrated current issue of THE AMERICAN BOY. A bill for $2.00, covering a year's subscription, will be sent you later, unless you notify us to the contrary within 10 days.

$2.00 a year by mail, 20 cents a copy at news-stands. Subscribe for a year or leave a standing order with your news-dealer.

The American Boy

THE SPRAGUE PUBLISHING CO.
289 Lafayette Boulevard, Detroit, Mich.

Please enter a year's subscription of THE AMERICAN BOY and send a copy of the current issue to the following address. Unless I notify you to the contrary within ten days of the receipt of it, I will remit $2.00 on receipt of your bill.

Boy's Name .....

Address .....

Your Name .....

Address .....

If you prefer, remit $2.00 with order. Canada, $2.25; foreign, $2.50.

New Kind of Mackerel

IT'S just as different from ordinary, dry, stringy, tasteless mackerel as day is from night. My mackerel comes to you straight from the fishing boats of old Gloucester—plump, tender, juicy, *late-caught* mackerel, with a wonderful deep-sea tang and flavor all its own. You'll say it's the most delicious mackerel you ever put into your mouth. Let me send you some to try, at my expense! Don't send a penny—just your name on the coupon. I'll ship you, all charges prepaid, a "Get-Acquainted" pail containing 12 just-caught Gloucester mackerel (heads, tails and all waste removed), each fish sufficient for two people. They are carefully packed in new brine to keep almost indefinitely.

SEND NO MONEY Try one of these mackerel and if not absolutely delighted, return the rest and the trial doesn't cost you a penny. Otherwise send me only $2.68 in full payment. These are the nicest fish for their size and the price is the lowest we have been able to make for years. Mail the coupon NOW.

FRANK E. DAVIS FISH CO.,
510 Central Wharf, Gloucester, Mass.

FRANK E. DAVIS FISH CO.,
510 Central Wharf, Gloucester, Mass.:

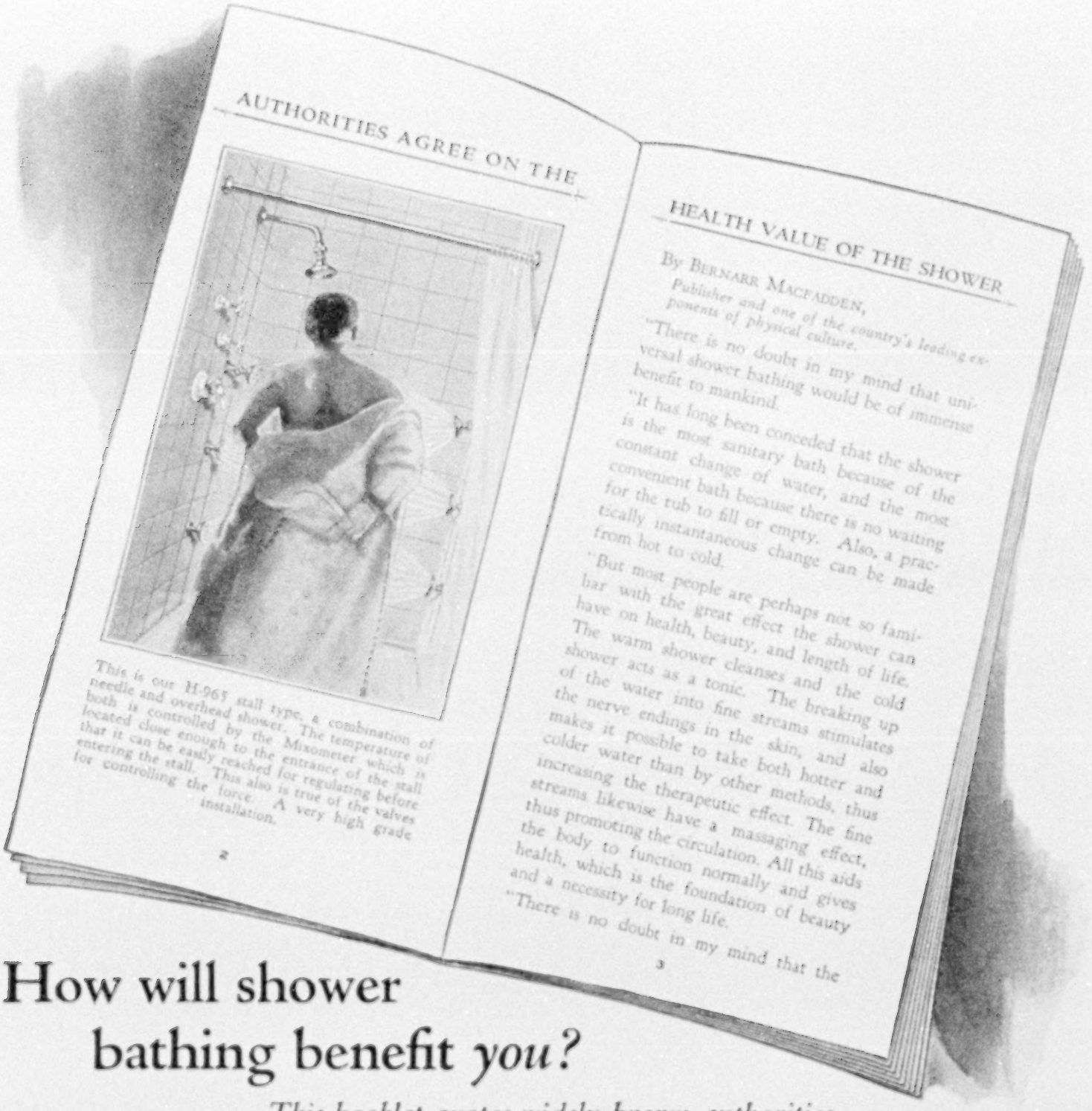
Send me, at your expense, your special Get-Acquainted pail containing 12 just-caught Gloucester mackerel, packed in new brine, clear fish, no heads or tails. After eating one of the mackerel, I'll either return the rest at your expense or send you $2.68 within ten days.

Name .....

Address .....

City ..... *State* .....

Bank or other reference .....



How will shower bathing benefit *you?*

This booklet quotes widely known authorities on the healthful effects of shower bathing

IT'S a common fault among people who do not shower bathe to look at the shower as just another means of taking a bath.

But this is not all—the shower is more than a bath. True, it does cleanse your pores and rinse them in fresh, ever-changing water. But the health value of the shower does not stop here. The stimulant of a shower—the massaging—the quick changing of the water's temperature—all of these things have a most beneficial and lasting effect on your health.

We asked nationally known authorities what they thought of shower bathing. They were glad to tell us. We have compiled their letters in a booklet —"Authorities Agree." Without any obligation, we will be glad to send you this booklet. In writing, if you have a regular plumber, please mention his name.

SPEAKMAN COMPANY, Wilmington, Delaware

SPEAKMAN SHOWERS

THE MODERN BATH ROOM HAS A SHOWER

Fall Time Is *Garden-building Time*

Pergolas—rose arbors—shelter houses—you can build them more conveniently these fall months than at any other time. The workmen, unhampered, do better work in less time. With foundation and building done, plants may be properly placed—you get a full growing season and added months' enjoyment of your garden.

Because we specialize in garden equipment, you are assured designs that are architecturally correct, designs that harmonize with the exquisite work of nature to give your home and grounds an air of downright luxury . . . and the cost is less than if done by local carpenters. You get the full advantage of the low cost possible with our large production.

Only the finest materials are used in Hartmann-Sanders' products; all columns are the famous Koll Lock-Joint Columns. They will not—*cannot*—come apart. Send 30c for illustrated catalog N-34, filled with useful suggestions. Catalog N-47 on entrances and columns, 20c.

Hartmann-Sanders Co.
2187 Elston Avenue, Chicago
Showrooms: 6 East 39th St., New York City

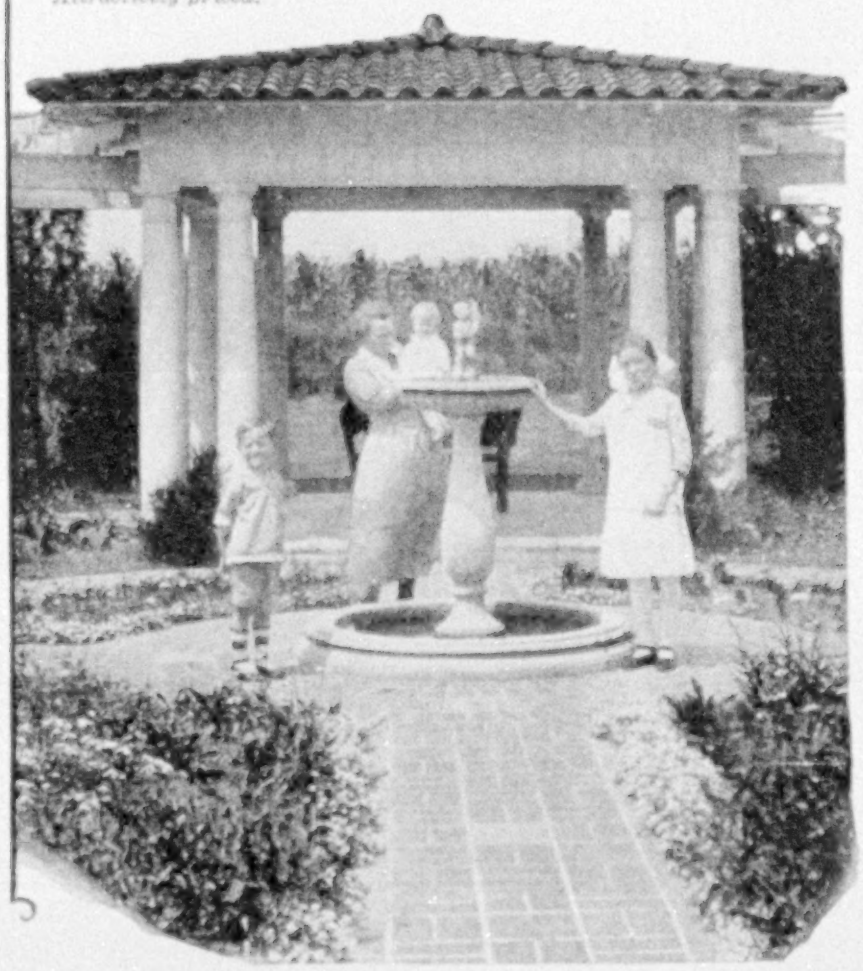
HARTMANN-SANDERS

Koll Lock Joint Columns—Pergolas—Rose Arbors
Garden Furniture and Accessories

KOLL LOCK JOINT COLUMN

THEY CANNOT COME APART

Hartmann-Sanders Entrances lend distinction to any home. Attractively priced.



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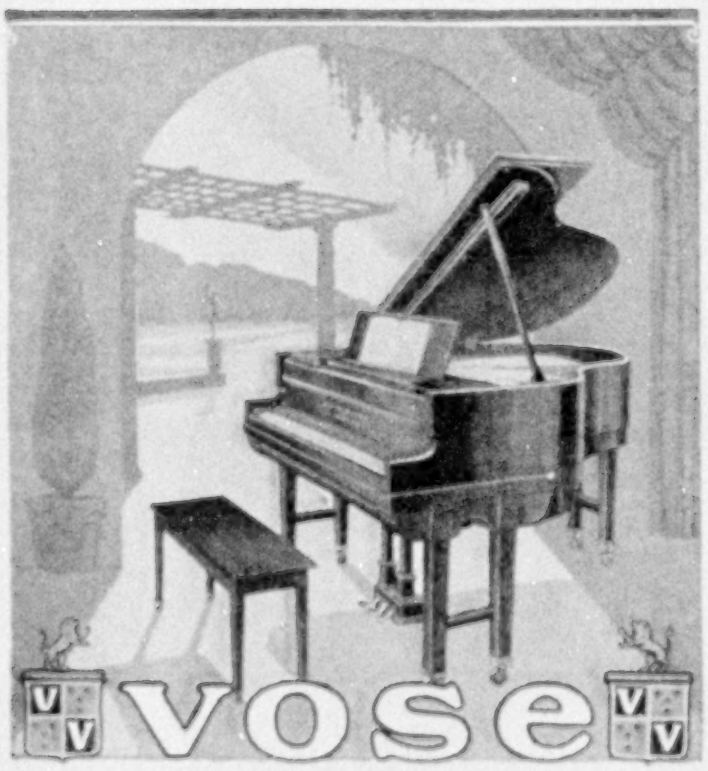


THE VOSE REPRODUCING GRAND PIANO

brings into your home the art of the world's greatest pianists, with all their subtlety of touch and expression.

Although the exquisite tone of the Vose is world-famous, the Vose price is moderate.

Write for Floor Pattern and Easy Payment Terms.

Vose & Sons Piano Co., 146 Boylston St., Boston

A Pet Guide

What dogs make the best playmates and home guardians? The Dog character is shown in the

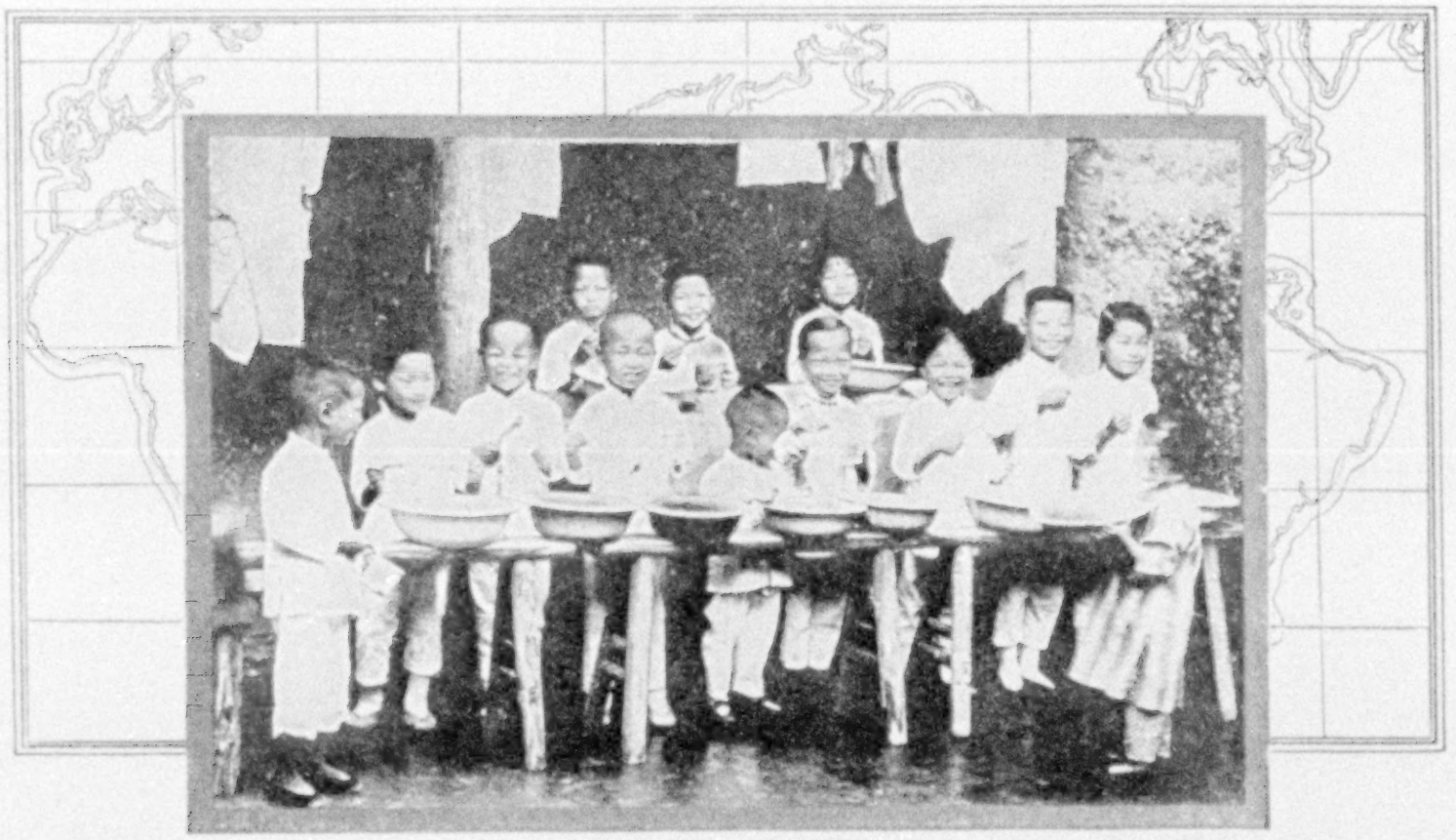
Book of Dogs

100 exceptional dog portraits in color; 27 half-tones; diagram of points; 96 pages.

THIS book helps one to choose hunting aide, dog guardian, and playmate for home or farm by character as well as by looks. Leading authorities give complete information about breeds and points while describing the loyalty, intelligence, and courage of "Man's Best Friend." Louis Agassiz Fuertes, artist-naturalist and painter of the color plates, collaborated in preparing the text to make it a lasting treasure to all lovers and owners of dogs.

Buckram (7 x 10 inches)
$2.00, postpaid in U. S. A.

NATIONAL GEOGRAPHIC SOCIETY
WASHINGTON, D. C.



Children of the Students, School for married women, Foochow, China

"Good Teeth—Good Health"

A World-Wide Idea

In China there are schools for mothers as well as for children. Yet it is the children who receive special instruction in the care of the teeth. As one experienced teacher in a mission school writes, "The mothers in the school may forget the use of a tooth brush but the children *will never forget.*

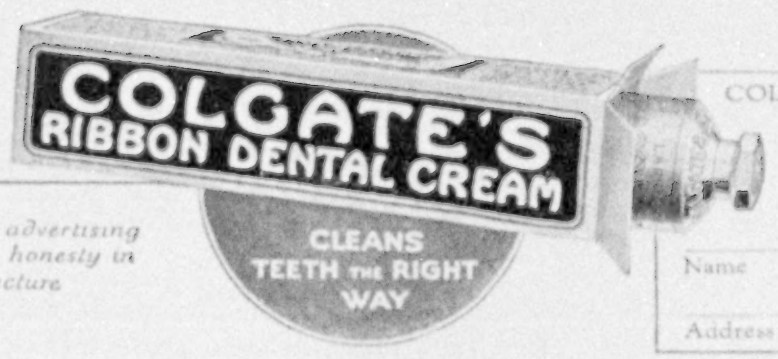
With the widespread use of the tooth brush comes an increased demand for the modern dentifrice. Colgate's Ribbon Dental Cream is now sold in every part of the world. Its mild ingredients and its safe, thorough manner of cleansing the teeth appeal to the people of all nations.

"Washes," Polishes and Protects

Colgate's Ribbon Dental Cream is a safe dentifrice for everyone to use. It cleans teeth by "washing" away the clinging particles of food. There is no harsh grit in it to scratch or scour the delicate tooth enamel. Colgate's removes causes of tooth decay. Large tube 25c.—At your favorite store.

COLGATE & CO.

Established 1806



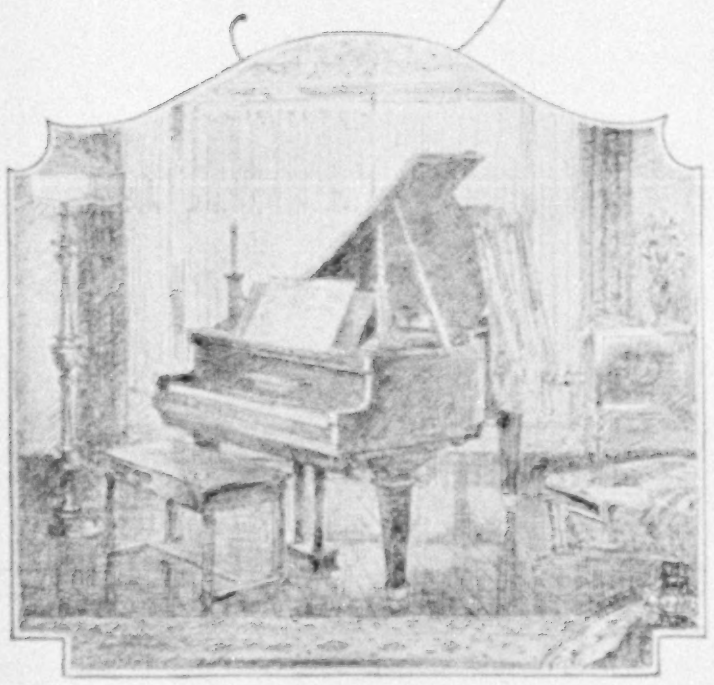
Truth in advertising implies honesty in manufacture

COLGATE & CO.
Dept. 721
199 Fulton St., New York City.
Please send me, free, a trial size of Ribbon Dental Cream.

Name

Address

Homes where Music dwells



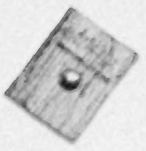
KIMBALL
REPRODUCING PIANOS

ENRICHMENT of the home, the greatest pianists playing for you as though in person, is accomplished through Kimball Reproducing Pianos.

Is Josef Hofmann a favorite? or Busoni—or Paderewski? You have but to choose from the best. Edna Richolson Sollitt, distinguished interpreter of modern music, exclaimed, "It seems as if I myself were playing—so lifelike, so familiar."

Any artist record from the De Luxe Welte Mignon (Licensee) Library offers all these pleasures. The Kimball Piano has won highest honors for "Superlative Merit." Write for particulars.

Ask for Brochure



"Artist Reproductions"

W. W. KIMBALL CO.

Established 1857

321 Kimball Building Chicago, Illinois

A Garden Full of Darwin Tulips for $2.00

In anticipation of again placing before our customers a collection of Darwin Tulips we have had a sufficient quantity grown so that we can offer

50 Giant Darwin Tulip Bulbs, Finest Mixed, for $2.00

selected from fifteen named varieties

Few spring flowering plants rival the Darwin Tulip for brilliance of bloom. Borne on strong stems often exceeding three feet. They are a wonderful addition to the flower garden.

Plant any time before the ground becomes frozen, and they will bloom from the middle of May to Decoration Day

Mail this advertisement, or present at our store, with check, money order, cash or stamps and secure this exceptional collection, sent prepaid to any point in the U. S. east of the Mississippi. For points west and Canada add 25c ($2.25.)

Our 1924 Fall Bulb Catalogue sent on request

Stumpp & Walter Co

30 and 32 Barclay Street New York

ISN'T SHE A BEAUTY!

IT'S easy to raise healthy, sturdy dogs with a little care and correct feeding. Dogs fed regularly on SPRATT'S Dog Cakes and Puppy Biscuits are healthy and good-humored. SPRATT'S contains all of the necessary ingredients to build bone and body. Not mussy to feed.

Insist on the *genuine*. If your dealer cannot supply you, send for sample and enclose 2c for book, No. G-104, on feeding.

Spratt's Patent Limited

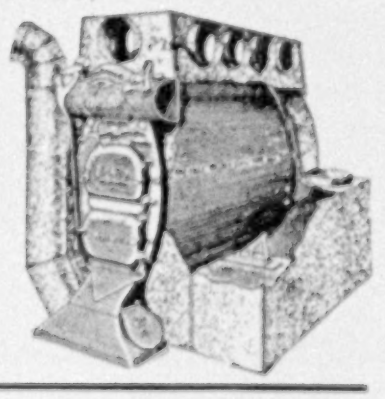
Newark, N. J.

San Francisco St. Louis

Keep Warm with Fresh Air

There's a big difference between a home heated with an ordinary furnace and one in which pure, fresh, invigorating warmth is uniformly circulated to every room by

THE FARQUHAR HEATING AND VENTILATING SYSTEM



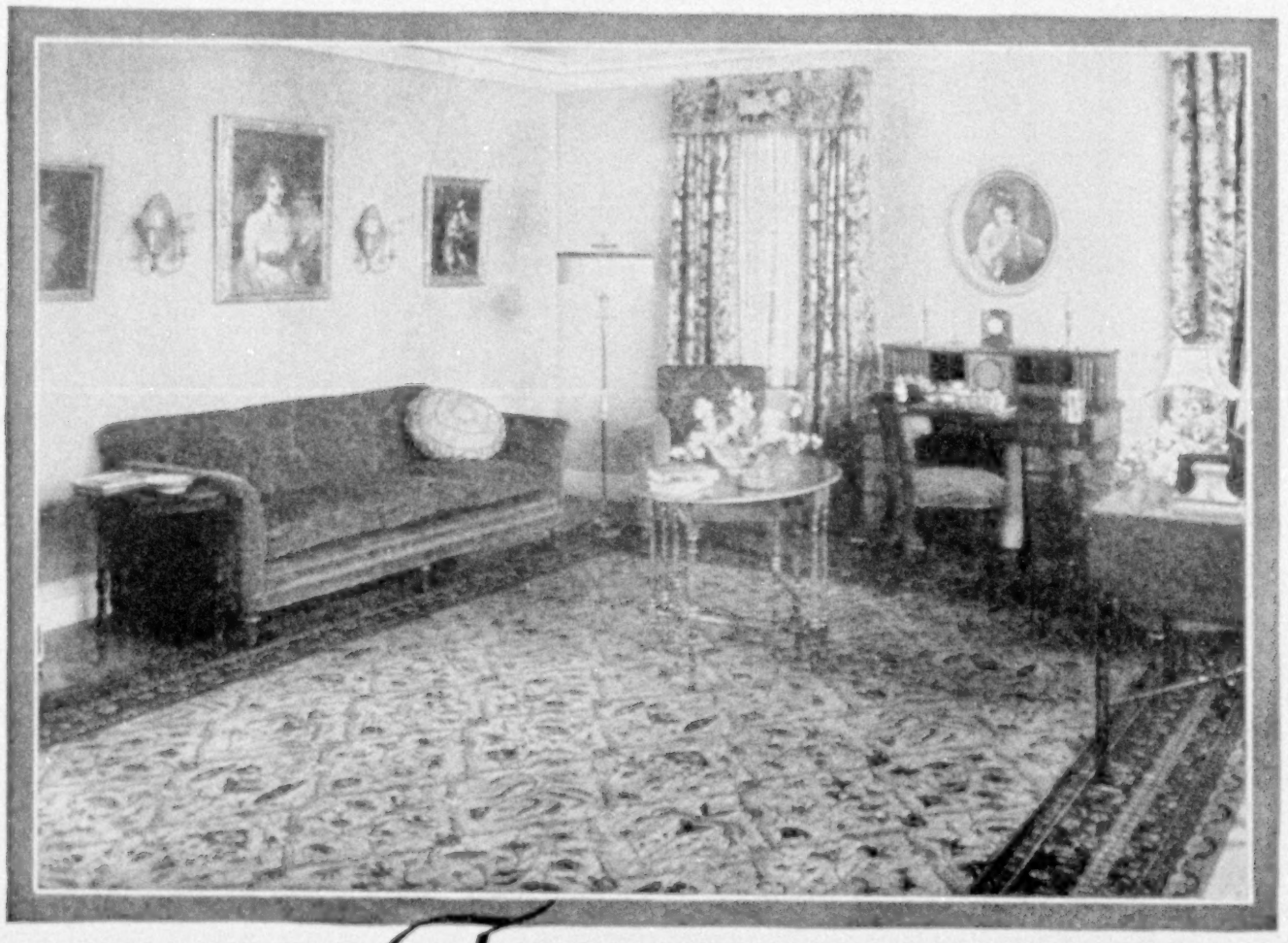
No other heating system can equal the results produced by these exclusive features:

One-piece firebox
Large grate area
Automatic control
Vent and Return System

Write for free booklet.

The Farquhar Furnace Co.

Dept. 910 Wilmington, Ohio



The mellow restfulness of home

To the mistress of this sanctuary of friendship and hospitality, belongs the happy feeling of confidence—confidence in self, and confidence in the capacity of one's home to entertain. The soft richness and sumptuous color of a beautiful Karnak Rug cover the floor—radiant with the spirit of good cheer.

Karnak Rugs are a real treasure for the living room. They reproduce faithfully in mellow tones and storied patterns rare masterpieces of Oriental weaving. Because they are highest grade Wiltons, they give lifelong wear. Not prohibitive in cost.

MOHAWK CARPET MILLS, INC., AMSTERDAM, N. Y.
Manufacturers of Rosslyn, Glendale and Highest Quality Chenille Carpets and Rugs
W. & J. Sloane, *Selling Agents* New York

Send 25c for 9 x 12 inch miniature Karnak Rug, an ideal gift for the children's doll houses. Our authoritative booklet "Beautifying the Home" will be sent on request to Karnak Adv. Dept., W. & J. Sloane, 581 Fifth Avenue, New York.

KARNAK RUGS

BEAUTY··WHERE PRIDE DEMANDS IT

This X-Ray shows tooth socket destruction by pyorrhea

Lovely teeth—

would the X-Ray show they're safe?

YOUR teeth may be white and free from decay, but they are in danger unless your gums are firm and healthy. The X-Ray shows how the root sockets, which support your teeth, are weakened when pyorrhea attacks the gums. The teeth fall out—or must be pulled—if pyorrhea is not promptly checked.

Bleeding, soft gums

—give warning that pyorrhea is developing. Dental clinics since 1908 have proved that Pyorrhocide Powder is a most effective dentifrice for checking, as well as preventing, pyorrhea.

The tonic and stimulating qualities of Pyorrhocide Powder correct bleeding gums, strengthen tender gums, harden soft gums. It keeps the teeth white and clean. It is medicated with Dentinol, a gum-tissue healing agent used by dentists in the treatment of pyorrhea.

Pyorrhocide Powder *keeps* healthy gums healthy. Its daily use—with proper dental care—will guard you from pyorrhea. The economical dollar package contains six months' supply. At all druggists. Send for free sample and booklet on causes and prevention of pyorrhea.

FREE Sample

THE DENTINOL & PYORRHOCIDE CO., Inc.
(Sole Distributors)
1478 Broadway, New York City.

Send me free sample of Pyorrhocide Powder and booklet.

Name .....

Address .....

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sparkling *and clean*

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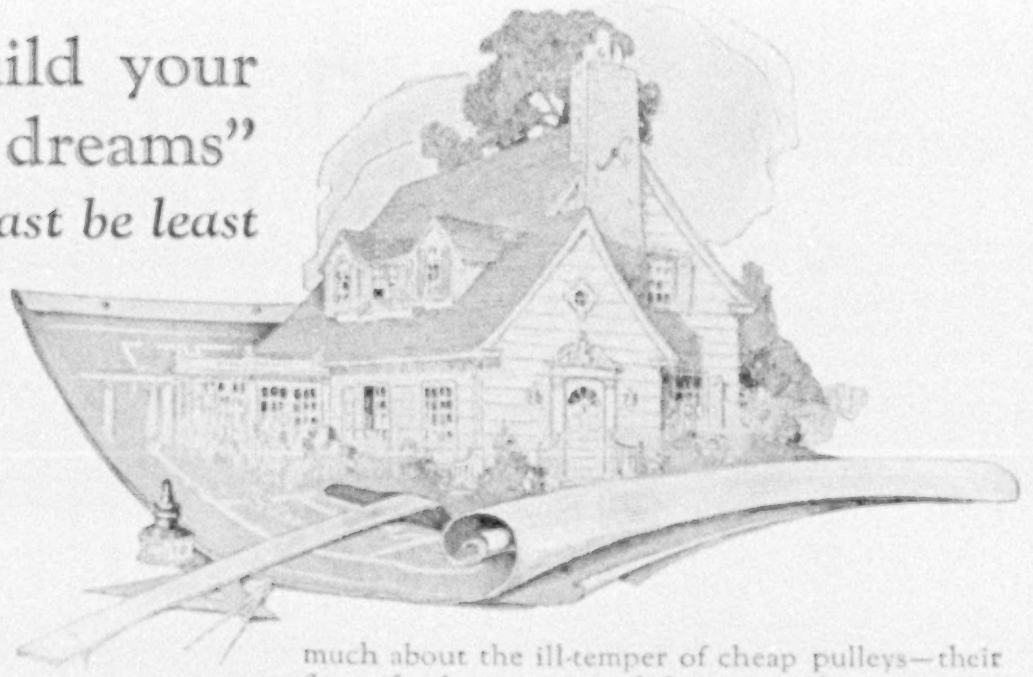
Buckram (7 x 10 in.),
$3, postpaid in U. S.

National Geographic Society
Washington, D. C.

When you build your "little house o' dreams" —*let not the last be least*



ONCE upon a time not so very long ago, Jack and Mrs. Jack planned a cozy house high upon a hill—the kind we all hope to have some sunny day.

They talked things over well—joyously discussed their future home into the wee sma' hours. One day they proudly viewed the finished plans. They were *good* plans for a *good* home—what one expects and gets from a *good* architect.

And so, the work began. Day by day the house arose in all its beauty—nearer and nearer came the completion of their happiness. At last they stood on the hill and viewed their "little house o' dreams" —created.

• • •

They had dug deep in the ground and deep in their pockets for a *good* foundation. They had raised an extra loan to raise a *good* roof. They had hotly insisted on having a *good* heating plant. And plumbing? "Of course we want *good* plumbing" was their answer.

And then one day, they came to the last thing on the list, and being last they thought it least—the hardware. They thought "we'll save on the hardware—it's not so important." To the admonitions of their architect they answered "No". To the experience of their contractor they lightly snapped a finger.

Now listen closely that you may know what happens when the last is made least—when *good* buildings fail to get *good* hardware.

The doors were hung with two light hinges. They deserved three sturdy *good* ones. After a while the doors began to sag and squeak and stick—a daily irritation.

The locks—they looked about the same as *good* hardware. Poor locks often do—outside. But later their insides told a different story. They simply didn't work without a fuss. The key would stick. The knobs came loose and, horror of horrors, the bright brass passed away. Rust and worn spots took its place.

The windows—what difference does their hardware make? Ask Jack and wife. They can tell you much about the ill-temper of cheap pulleys—their flat refusal to raise and lower windows quietly, easily and obediently. And makeshift window lifts that tarnish; fasteners, that with a struggle, only partly fasten.

And all through the house you will find it the same.

Those lovely casement windows that stick—the tall and gracious French doors that sag—the cabinet doors that keep forever slyly opening—all so beautifully designed, yet a daily disappointment and aggravation because of hardware on which Jack and wife decided "to save a bit".

• • •

To every sad story, there is a happy moral which you have no doubt guessed—which Jack and Mrs. Jack could now recite so well.

It is—"Good Buildings deserve Good Hardware —Corbin".

True—isn't it? So obviously true that we wonder why well meaning Jacks and wives fail to realize it until after they have finished building.

Hardware that works willingly, doors that smoothly swing but never sing, locks that say "shut" and stay shut, windows that gladly rise on any occasion.

Yes, *good* hardware—Corbin—serves silently and satisfactorily as do well trained servants.

Let not the last be least in your "house o' dreams". If it is to be a *good* building, it deserves *good* hardware—Corbin—nothing less.

May we send you our interesting booklet called "Good Buildings Deserve Good Hardware"? It is well worth reading if you are building or thinking of it.

Good Buildings Deserve Good Hardware

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Occupation.....
(This information is important for the records.)

Address.....

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for membership in the Society.

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Name and Address of Nominating Member

10-24

Lead goes out in every rainstorm

EVERY time you put on your raincoat and rubber overshoes you don some lead. Lead is used in rubber to obtain a uniform cure and great toughness. Today more than 19,000,000 pounds of lead are used annually by the rubber industry, and yet this tremendous quantity is only a small percentage of the billion pounds of lead used in various industries in a year.

Lead in rubber fire hose helps to protect your life and property from fire. The modern fire-fighter wears lead in his rubber coat and boots and hard rubber helmet.

After a ride in an automobile, in whose pneumatic tires there is lead, you enter your home to find there too, rubber articles containing lead. You walk on it in your rubber bath mat, wear it in a rubber apron, and use it in rubber jar rings and hot water bottles. Lead is in hard and soft rubber electric insulation and in your hard rubber comb and pipe stem.

Lead's most general use

NO matter to what extent lead is used by the rubber industry, its most nearly universal use is as paint. On every hand you see houses covered with white-lead, and metal structures protected from rust with red-lead.

Ask a professional painter what gives the greatest protection to surfaces such as wood. He will tell you pure white-lead mixed with pure linseed oil. He has probably been using it for years for exterior painting.

"Save the surface and you save all"

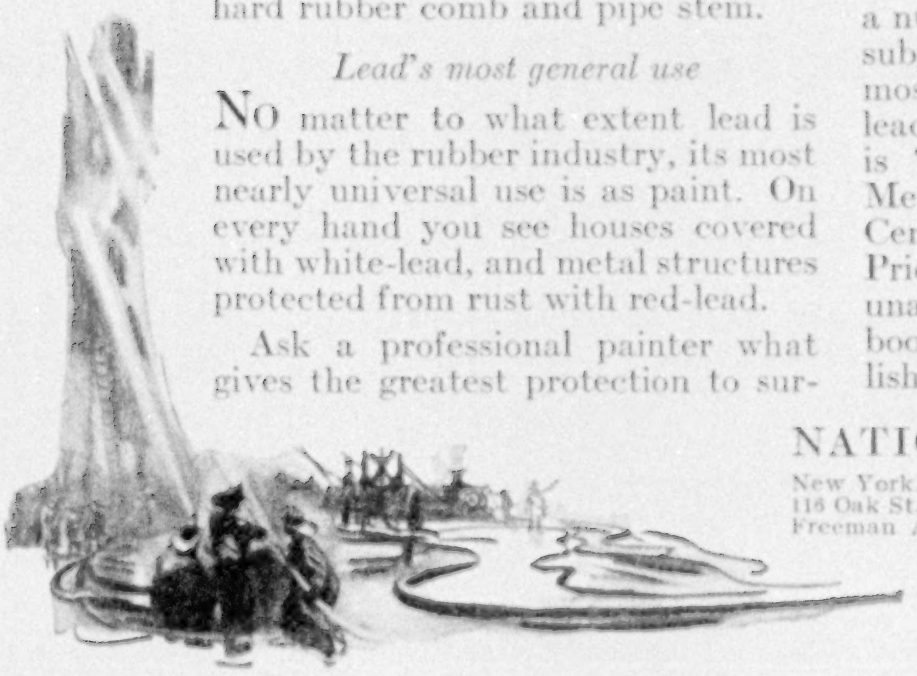
Producers of lead products

Dutch Boy white-lead is the name of the pure white-lead made and sold by National Lead Company. On every keg of Dutch Boy white-lead is reproduced the picture of the Dutch Boy Painter shown below. This trademark guarantees a product of the highest quality.

Dutch Boy products also include red-lead, linseed oil, flatting oil, babbitt metals and solder.

National Lead Company also makes lead products for practically every purpose to which lead can be put in art, industry, and daily life. If you want information regarding any particular use of lead, write to us.

If you wish to read further about this wonder metal, we can tell you of a number of interesting books on the subject. The latest and probably the most complete story of lead and its many uses is "Lead, the Precious Metal," published by the Century Co., New York. Price $3.00. If you are unable to get it at your bookstore, write the publisher or order thru us.



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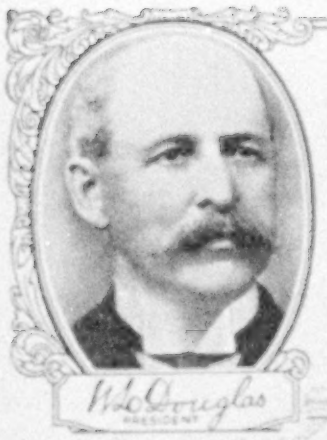
New York, 111 Broadway; Boston, 131 State St.; Buffalo, 116 Oak St.; Chicago, 900 West 18th St.; Cincinnati, 659 Freeman Ave.; Cleveland, 820 West Superior Ave.; St. Louis, 722 Chestnut St.; San Francisco, 485 California St.; Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Ave.; Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut St.



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New Fall Style *for Women* Patent Colt, Centre Strap Pump, with Elastic Gore, **$6.00**

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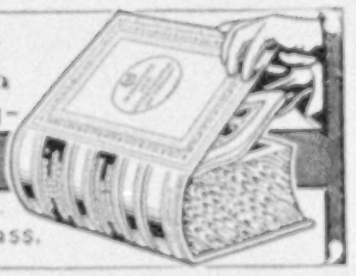

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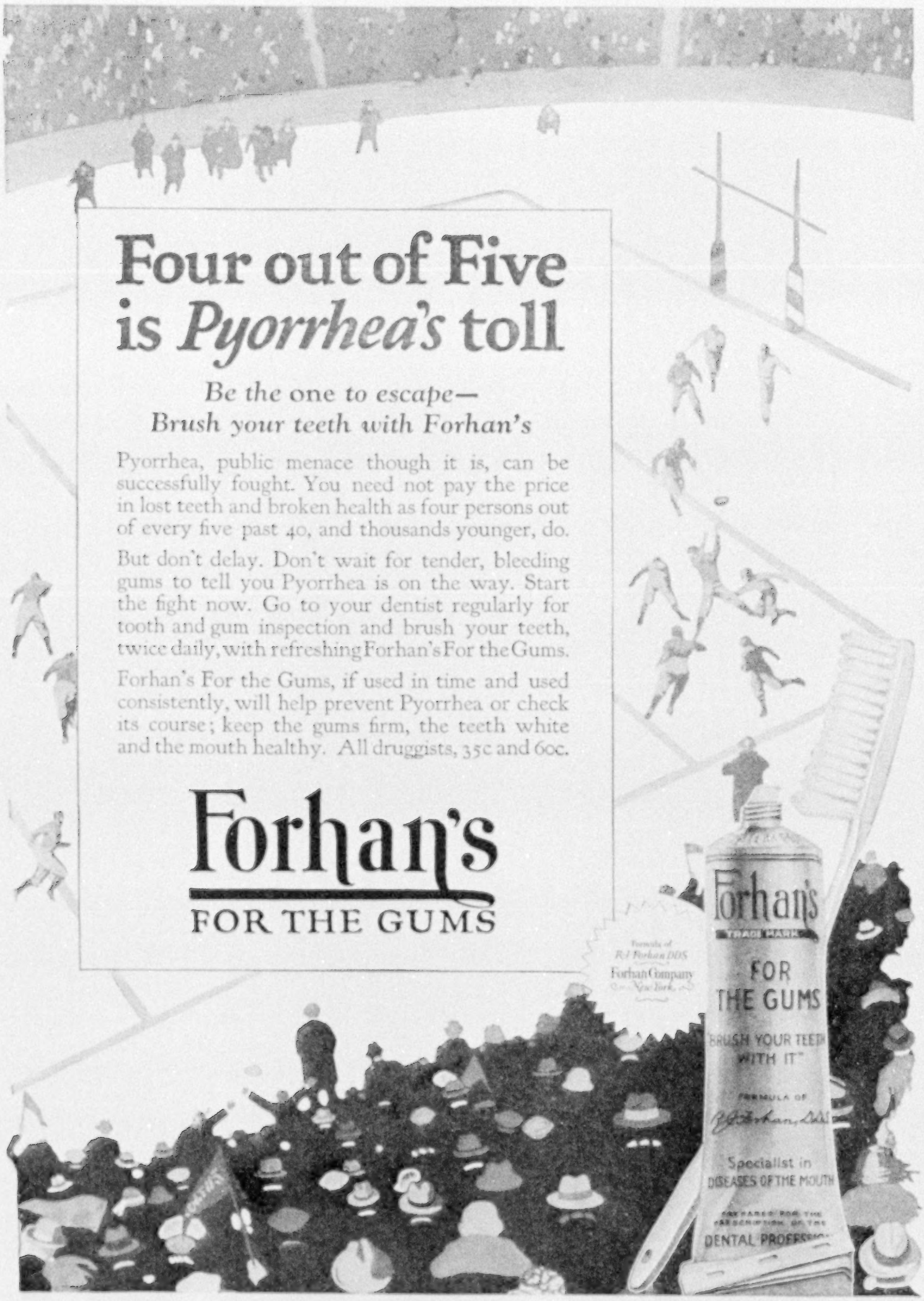


Four out of Five is *Pyorrhea's* toll

Be the one to escape—
Brush your teeth with Forhan's

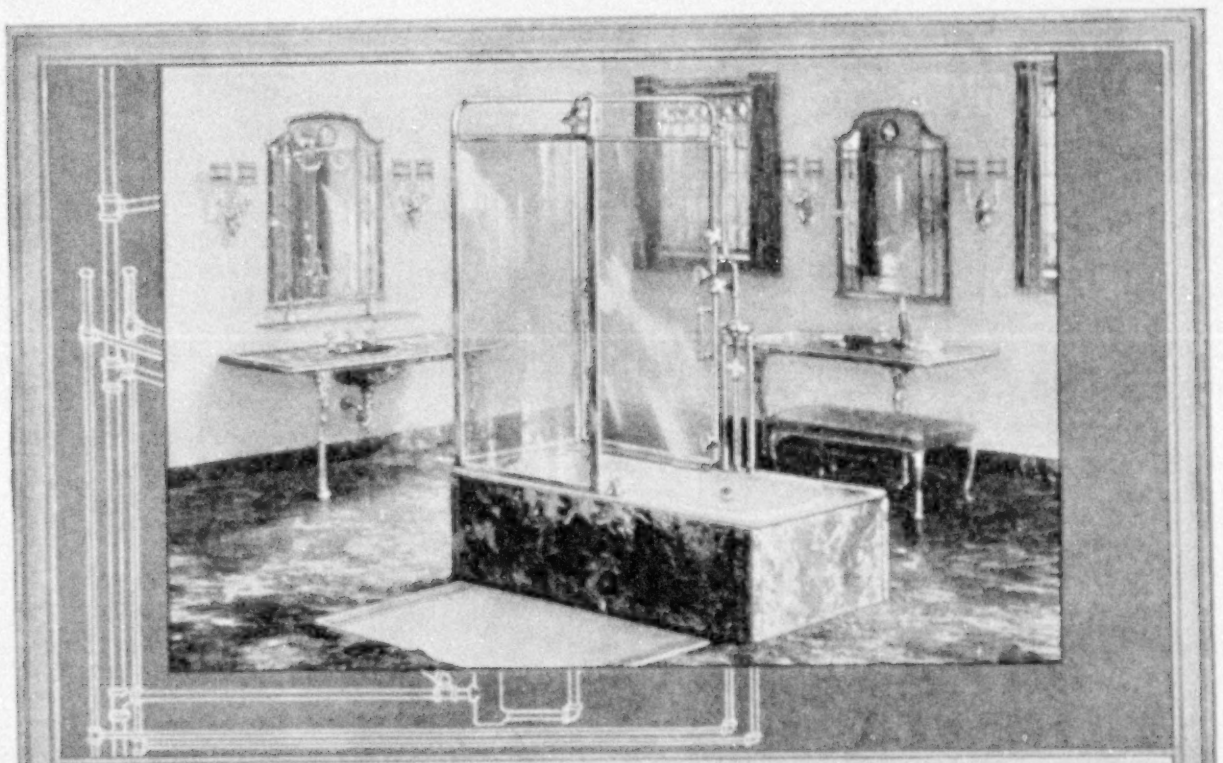
Pyorrhea, public menace though it is, can be successfully fought. You need not pay the price in lost teeth and broken health as four persons out of every five past 40, and thousands younger, do.

But don't delay. Don't wait for tender, bleeding gums to tell you Pyorrhea is on the way. Start the fight now. Go to your dentist regularly for tooth and gum inspection and brush your teeth, twice daily, with refreshing Forhan's For the Gums.

Forhan's For the Gums, if used in time and used consistently, will help prevent Pyorrhea or check its course; keep the gums firm, the teeth white and the mouth healthy. All druggists, 35c and 60c.

Forhan's
FOR THE GUMS

XUM



CRANE BEAUTY IN THE OPEN; CRANE QUALITY IN ALL HIDDEN FITTINGS

The most interesting setting a bath can be given is in the open, away from walls and corners. And now the new Crane *Crystal* shower provides the final luxury of a curtainless, splash-proof shower adapted to use in combination with the *Tarnia* bath of cream white enamel on iron.

Inclosed on three sides in plate glass, framed in standards of nickeled brass, water is led to the overhead needle shower and four horizontal sprays through two of the vertical supports. The hot-and-cold mixing faucet supplies tempered water to the shower, sprays and tub. Large hand grips on main supports at both sides. All valves within easy reach.

The *Tarnia* bath shown is encased in black and white marble, matching the *Neumar* lavatory and dressing table. Tiles of any color or pattern can replace the marble.

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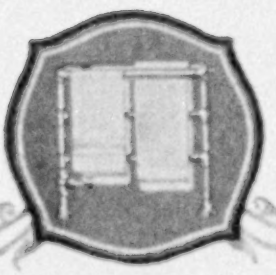
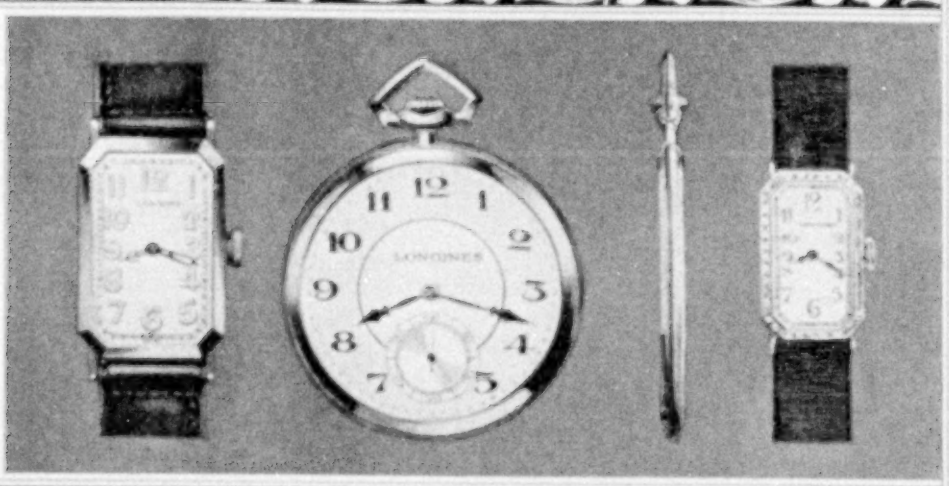


Crane "Towel Warmer" No. C25010



What does your watch tell others?

Suppose your watch is fairly accurate. It tells you the time and you are satisfied.

But do you ever think what it says to others? For much can be told about a person by the watch he or she carries.

Carry the Longines Watch with its "observatory accuracy" and you know that no man need question your choice either for accuracy or beauty.

In almost every country, under the severest government tests held at official observatories, Longines Watches have won their way to the top.

Ask your own jeweler, "What do you think of the Longines Watch? Let me see one." Or write to us for an illustrated booklet showing many styles at prices ranging from $35 to $1,000.

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At *Geneva Observatory—Switzerland:* Result of 1924 trial shows Longines obtained one first prize of series and ten additional first and second prizes.

In 1923 Longines obtained one first prize of series and ten additional first and second prizes.

At *Neuchatel Observatory — Switzerland:* 365 Awards in International Contests. (Since 1905.)

At *Kew-Teddington Observatory — England:* 132 Awards in International Contests since 1910. (1918 year's record for best performance.) Since 1919 every Longines watch submitted passed trial with mention "especially good."

The Longines WATCH

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